A Qualitative Study of the Massage Therapy Foundation's Best Practices Symposium: Clarifying Definitions and Creating a Framework for Practice

Ann Blair Kennedy
University of South Carolina - Columbia

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A Qualitative Study of the Massage Therapy Foundation's Best Practices Symposium: Clarifying Definitions and Creating a Framework for Practice

by

Ann Blair Kennedy

Bachelor of Arts
Presbyterian College, 1994

Master of Arts
University of South Carolina, 1996

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Accepted by:
Ruth P. Saunders, Major Professor
Ken Watkins, Committee Member
Patricia Sharpe, Committee Member
Jerrilyn Cambron, Committee Member

Lacy Ford, Senior Vice Provost and Dean of Graduate Studies
DEDICATION

This work is dedicated to my family.

Brian, Jax, and Blair, thank you for allowing me the time and space to complete this degree and this dissertation you all mean the world to me. You make me laugh and remind me why this is important.

And…

To my parents Drs Jane and Steve Blair: Thank you for giving me a place to stay and work in peace and supporting me through this whole process.
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I would also like to thank the American Massage Therapy Association and all its staff and volunteers. It is because of all of you that I decided to go to school in the first place. You are the reason that I am here; I hope I can do our profession proud.

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ABSTRACT

Large numbers of individuals seek massage therapy for wellness/disease prevention purposes and research supports consumer reported benefits including physical and psychological improvements. However, challenges within the profession may be hindering the advancement of the field. To better understand the process and outcomes and ultimately develop best practices for massage therapy as well as better inform education, policy and research, it is necessary to investigate how massage and/or massage therapy are defined and operationalized in practice.

This study entailed qualitative analysis of cross-sectional data using a grounded theory approach to examine the data gathered from a two-day symposium held in 2010 in conjunction with the Massage Therapy Foundation’s Highlighting Massage Therapy in Complementary and Integrative Medicine Research conference in Seattle, Washington. The intended purpose of the symposium was to gather knowledge to inform and aid in the creation of massage therapy best practice guidelines for stress and low back pain. However, upon initial analysis, the committee that arranged the symposium realized they did not have the information needed to create the intended best practices. Analysis detected emergent themes and results yielded a need for clear definitions of massage and massage therapy, contextual elements that influence practice, and a process framework for massage therapy practice.

This study is significant because no study to date has used a grounded theory
approach to analyze world café style conversations to define and conceptualize clinical practices in massage therapy. Understanding how experts in the field define, describe and understand massage therapy and massage therapy practice could help further the profession with potential implications to practice, education, policy, regulation and research. For example, massage therapists may need further education on areas of documentation, establishing therapeutic relationships, best ways to communicate and offer health promotion messages; additionally incorporating these changes into a practice setting may require massage therapist to reexamine their business and practice procedures. These aforementioned areas (documentation, establishing therapeutic relationships, best ways to communicate and offering health messages) would also need to be incorporated into initial education. Research may be significantly impacted; it will be necessary for scientists to indicate if they are studying massage or massage therapy, for instance. The models and definitions do need to be tested to determine their validity; and the first step would be to study all the constructs (e.g. therapeutic setting, therapeutic relationships, etc.) within the context of massage therapy to see if they do have an impact on outcomes. Then, if the constructs are found to be valid, all constructs within the definition would need to be measured when scientists are investigating massage therapy. Policy at national organizations and regulation may be impacted if is concluded that the best plan for regulation for the profession would be to initiate tiered licensure at the state and national level based on the differences between massage and massage therapy.
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LIST OF ABBREVIATIONS

ABMP .................................................. Associated Bodywork and Massage Professionals

AFMTE .................................................. Alliance for Massage Therapy Education

AMTA .................................................. American Massage Therapy Association

BPC .................................................. Best Practices Committee

CAM .................................................. Complementary and Alternative Medicine

COMTA .............................................. Commission on Massage Therapy Accreditation

FSMTB ............................................... Federation of State Massage Therapy Boards

IOM .................................................. Institute of Medicine

MTBOK ............................................... Massage Therapy Body of Knowledge

MTF .................................................. Massage Therapy Foundation

NCBTMB ........................................... National Certification Board for Therapeutic Massage and Bodywork

NCCAM ............................................. National Center for Complementary and Alternative Medicine

NCCIH ............................................... National Center for Complementary and Integrative Health
CHAPTER 1

INTRODUCTION

The massage therapy profession was estimated to be nearly a $12 billion US industry in 2014.¹ Large numbers of individuals seek massage therapy for wellness/disease prevention purposes¹⁻⁵ and research supports consumer reported benefits including physical and psychological improvements. Massage therapy has been shown to help in varying populations with anxiety,⁶⁻¹⁴ depression,⁹,¹₂,¹₃,¹₅⁻¹⁹ pain,⁹,¹₃,¹₆,²₀⁻²⁷ stress,²₈⁻³² quality of life,³₃⁻³⁹ and other conditions as well. Encouragingly, consumers of massage therapy report the benefits to include stress management, relief from chronic and acute pain, injury rehabilitation, postural changes, energy balancing, emotional release, self-care and relaxation.⁵ Massage therapy, therefore, may have a profound effect on health and wellness. While it seems apparent that massage therapy is beneficial for those who engage with the health modality, challenges within the profession may hinder the advancement of the field.

A better understanding the challenges around the issues in the massage therapy profession is needed to facilitate moving the profession forward. The challenges include: a lack of an agreed upon definition of massage therapy, inconsistent regulation of massage therapy across the US in practice and in education, lack of competencies to guide the profession, a diversity of the settings in which massage therapy is delivered, isolation of individual practitioners in practice, the division in the profession, a need for
clarity of the elements within massage therapy practice, as well as assistance in clinical decision making.

Specifically, it is important to define clearly all aspects of massage therapy in order to teach, practice, and research massage therapy. Fortune and Gillespie have pointed out that massage therapists themselves are at times unclear about the true definition of massage therapy and what makes an excellent massage session. Durlak and DuPre have noted that for science to get an accurate picture of a phenomenon, scientists must be able to accurately measure it, and scientists cannot accurately measure something that is not clearly defined. Not having clear definitions will not only impact research; however, there are potentially impacts to education, practice and policy as well. To better understand the process and outcomes and ultimately develop best practices for massage therapy as well as better inform education, policy and research, it is necessary to investigate how massage and/or massage therapy are defined and operationalized in practice.

Issues surrounding widely differing requirements in state regulations of massage therapy as well as inconsistencies in initial massage therapy education have caused challenges for the profession. Research has indicated that by providing higher education requirements as well as adding professional competencies for the profession may offer some solutions for these issues.

Additionally, a lack of understanding of the impact of settings on therapy outcomes and the isolation of therapists should be investigated. While no United States literature discusses the divide in the profession, it can be seen through the lens of
social media professional group discussions and discussion at professional meetings. A group of researchers do identify the “identity crisis” for the profession in Canada, which seems to mirror the problems in the US.⁴⁶

Current frameworks for practice may have neglected important aspects of practice. Creating this structure and identifying the best framework for massage therapy practice could help to further the field if adopted by educators, practitioners, policy makers, and professional organizations.

In an effort to address some of these challenges and create guidelines for massage therapy, the Massage Therapy Foundation (MTF) created a Best Practices Committee (BPC) in 2006. This committee set out to create best practice guidelines for massage therapy for low back pain and stress by hosting a two-day symposium as part of the MTF’s Highlighting Massage Therapy in Complementary and Integrative Medicine Research conference in 2010. In attendance at this symposium were 31 experts in the field of massage therapy including practitioners, educators of both initial and continuing education, researchers and authors. From this symposium almost 45 hours of discussions in a World Café format were recorded and transcribed.

Upon first exploration of the data, the BPC found they did not receive the information they were looking for; instead the discussions from the symposium were more general in nature about massage therapy and massage therapy practice. The BPC then struggled and did not know how to proceed. In April of 2014, the MTF Board of Trustees and BPC decided the best course would be to partner with an academic institution for analysis and dissemination of results the symposium. This dissertation is
the result of that partnership. Therefore, the primary aim of this study will be to discover how experts in the massage therapy understand and describe the field of massage therapy.

**Specific Aim 1: To examine how experts in the profession define and describe massage and massage therapy and frame the practice of massage therapy.**

Foundational research into how experts in the profession understand and describe the field of massage therapy is limited. The initial analysis indicated a need for clarifying the definitions of massage and massage therapy, as well as describing the context for massage therapy practice. Understanding the potential differences in the terms massage and massage therapy could transform the profession. As the experts themselves noted, massage therapy is complex and has many components that are not always recognized. Additionally, acknowledging factors that may impact practice invites the opportunity for discussions.

**Specific Aim 2: To examine how experts in the profession define and describe massage therapy practice.**

The participants identified constructs that can be formed into a structured framework for practice as well as an in depth process within that framework to assess and evaluate clients. The goal for providing these frameworks is to give massage therapists tools to help deliver the best possible care for their clients. The frameworks are intended to be flexible and adaptive and may work in many different situations from a clinical healthcare environment (e.g. hospital setting) to more relaxed spa environments. There is also a potential for the framework for assessment to be adapted to an electronic medical record format. The models need to be tested to see if they can help advance practice,
research, and education in the field of massage therapy.

This study is innovative because no study to date has used a grounded theory approach to analyze world café style conversations to define and conceptualize clinical practices in massage therapy. This study also helps to bring clarity to concepts that are often used interchangeably, i.e. massage and massage therapy. Understanding how experts in the field define, describe and understand massage therapy and massage therapy practice could help further the profession with potential implications to practice, education, policy, regulation and research.

With large number of individuals seeking massage therapy as treatment and appreciating the amount of dollars spent on the industry, investigating ways to improve the profession seem warranted. Understanding the challenges to the profession allows ways to seek to resolve the issues. While the goal of the BPC was to create condition specific best practice documents, the participants felt that a foundational document was needed. This work may be that start of that foundation in which future best practices can be built.

This dissertation includes the following information: Chapter 2 contains a literature review offering an overview of and challenges for the massage therapy profession. Chapter 3 describes the project as well as the study methodology. Chapter 4 includes two manuscripts that offer the results of the project. Chapter 5 offers further discussion as well as public health significance.
CHAPTER 2

LITERATURE REVIEW

Massage Therapy

Complementary and Alternative Medicine (CAM) modalities are often used by individuals who seek to improve their health and well-being and to gain control over their health. Massage therapy has been recognized as one of the modalities included in the definition of CAM by the National Center for Complementary and Integrative Health (NCCIH) formerly known as the National Center for Complementary and Alternative Medicine (NCCAM). Massage therapy is also one of the most frequently used CAM modalities.3,4

The massage therapy profession was estimated to be nearly a $12 billion US industry in 2014.1 According to a recent industry report more than half (54%) of those who received massage therapy between July 2013 and July 2014 were doing so for health or medical reasons including pain management and/or overall wellness.1 Other industry reports are consistent with these findings, indicating that the primary reasons people have cited for seeking massage therapy are for health and wellness.5,49,50 Encouragingly consumers of massage therapy report the benefits to include stress management, relief from chronic and acute pain, injury rehabilitation, postural changes, energy balancing, emotional release, self-care, and relaxation.5
Research is increasingly providing evidence for the consumer-reported benefits. Studies show that massage therapy can be very effective for pain relief including low back pain, pain in the neck and shoulder, headaches, fibromyalgia pain, and arthritis pain. Massage therapy also can influence psychological issues especially in reducing anxiety and depression. In the realm of surgery, massage therapy can help with alleviating anxiety, tension, and post-operative pain.

Other benefits include, but are not limited to, helping relieve constipation; assisting in issues surrounding pregnancy as well as labor and childbirth including improving sleep for pregnant women, reducing pain during pregnancy, labor, and after childbirth, and reducing anxiety both during pregnancy and labor. After childbirth, massage therapy has been noted in assisting with pediatric issues including reducing muscle tone, reducing anxiety, and reducing arthritis pain.

With older adults, massage therapy has been indicated to help with improving balance, improving blood pressure, decreasing pain - especially arthritis pain, reducing anxiety and promoting relaxation. Research has shown that massage therapy assists in ameliorating symptoms from cancer treatment; and aiding athletes and those who exercise.

Furthermore, massage therapy has few safety issues. Massage therapy can not only assist in managing health conditions, it may also be preventative in nature as massage therapy has been shown to assist in relieving stress, increasing the immune system response, and may positively influence cardiovascular health by reducing blood pressure and restoring peripheral vascular function after exertion.
Finally massage therapy has been shown to increase quality of life for varying populations. Massage therapy therefore may have a profound effect on health and wellness. While it seems apparent that massage therapy is beneficial for those who engage with health modality, challenges within the profession may hinder the advancement of the field.

To understand how to advance a profession, it is important to not only understand the challenges, but also to consider the goals of the profession. These visionary ideas can be seen in the strategic plans of the non-profit professional organizations. Not all goals within organization’s strategic plan are focused on the profession, some are associated strictly on the organization itself; however, those that are profession focused give indications on the direction of ways to advance the field. For example industry base goals from the American Massage Therapy Association (AMTA) strategic plan focus on professional competency, advocacy and influence, image and awareness, industry relationships, research, and government relations. Each of AMTA’s goals also has a specific objective to allow for ways to operationalize and measure the success of the intended goal. The Federation of State Massage Therapy Boards (FSMTB) also looks to improve standards within the profession including areas of education, licensure and practice; however, there is no stated objective as a way to achieve these goals. The other professional organizations offer similar goals to improve education, to advocate for the profession, and work with regulatory bodies. With these concepts in mind, advancing the profession may happen by increasing the published research within the field, providing tools to help practitioners improve contact with clients, advocating with evidence to help improve regulations, improving the image of and increasing awareness.
of the benefits of the profession with the public. Additionally, addressing the challenges and potentially offering solutions to those challenges could also help to advance the profession.

**Challenges to Massage Therapy Profession**

A better understanding of the challenges in the massage therapy profession is needed to facilitate moving the profession forward. The challenges include: a lack of an agreed upon definition of massage therapy, inconsistent regulation across the US in practice and in education, lack of competencies to guide the profession, a diversity of the settings in which massage therapy is delivered, isolation of individual practitioners in practice, the division in the profession, a need for clarity of the elements within massage therapy practice, as well as assistance in clinical decision making.

**Massage Therapy Definition**

It is important to define clearly all aspects of massage therapy in order to teach, practice, and research massage therapy. Fortune and Gillespie have pointed out that massage therapists themselves are at times unclear about the true definition of massage therapy and what makes an excellent massage session.\(^{40}\)

Massage is generally defined as a manipulation of soft-tissue and massage therapy is then the systematic application of massage\(^9,10^{6}\) and some extend the definition to include the systematic manual manipulation of soft tissue to enhance health and wellbeing;\(^13\) however, this may not adequately describe what happens within a massage therapy session. Anecdotally, asking individuals if they have every had a bad massage rarely leads to the answer of only poor manipulation of the tissue. Jill Berkana, a school
owner and educator, has collected responses as to why clients leave massage therapists; she gives this list to her new students and the list is posted on her blog to invite discussion. These infractions range from therapists with poor communication skills and poor personal hygiene, to uncomfortable and/or dirty therapy spaces, and many more issues.\(^7\)

It is important to investigate the current definitions and to consider the field as a whole to move toward clarity on what constitutes the constructs within the profession. The Massage Therapy Body of Knowledge (MTBOK) project was a joint venture by AMTA, Associated Bodywork & Massage Professionals (ABMP), Alliance for Massage Therapy Education (AFMTE), FSMTB, MTF, and National Certification Board for Therapeutic Massage and Bodywork (NCBTMB). The scope of this project was to describe the massage therapy field, define a scope of practice, and define terminology for the profession. The definition of massage therapy produced by this group reads as follows:

*Massage therapy is a healthcare and wellness profession involving manipulation of soft tissue. The practice of massage therapy includes assessment, treatment planning and treatment through the manipulation of soft tissue, circulatory fluids and energy fields [121], affecting and benefiting all of the body systems, for therapeutic purposes including, but not limited to, enhancing health and wellbeing, providing emotional and physical relaxation, reducing stress, improving posture, facilitating circulation of blood, lymph and interstitial fluids, balancing energy, remediating, relieving pain, repairing and preventing injury and rehabilitating. Massage therapy treatment includes a hands-on component,
as well as providing information, education and non-strenuous activities for the purposes of self care and health maintenance. The hands-on component of massage therapy is accomplished by use of digits, hands, forearms, elbows, knees and feet with or without the use of emollients, liniments, heat and cold, hand-held tools or other external apparatus. It is performed in a variety of employment and practice settings.\(^{108(p7)}\)

The question remains, do these currently accepted definitions adequately define massage and massage therapy? The MTBOK definition has positives including of non-hands-on components of treatment and fully describing the hands-on component, which is faultless. However, other portions bring up startling points such as including benefits of massage therapy for which there is no evidence (e.g. balancing energy) and the one source cited to define this complex modality is a book on eastern mind-body theory;\(^{109}\) this certainly is not what would be accepted in western allopathic medical and wellness practices. No current evidence exists for the incorporation of massage influencing energy fields and while this assumption has been in the teaching of massage modalities, without scientific evidence it should not be included in a definition of massage therapy.

While the definition allows for some framework for massage therapy practice other considerations may be necessary to create best practices for the profession. The document, as stated by the MTBOK website, was intended to be a living document which will be regularly updated; however, the document has not been updated since 2010. Reexamination of the MTBOK definition is needed to incorporate known evidence about the benefits of massage therapy and to remove portions that are not supported by research. Some in the profession may balk at the exclusion of energetic practices;
however, if research is conducted regarding massage influencing energy fields then this “living document” and definition could then be updated to include those modalities.

Durlak and DuPre have noted that for science to get an accurate picture of a phenomenon, scientists must be able to accurately measure it, and scientists cannot accurately measure something that is not clearly defined.\textsuperscript{41} To better understand the process and outcomes and ultimately develop best practices for massage therapy, it is necessary to investigate how massage and/or massage therapy are defined and operationalized in practice.

\textit{Regulation}

Currently 44 states, Puerto Rico, and Washington DC have some form of regulation for massage therapy. These states differ widely on the requirements in which people can practice. The education requirements for entry into the profession range from a minimum of 300 hours in Delaware to be a Certified Massage Technician to 1000 hours required by New York and Nebraska.\textsuperscript{42,43} Regulation itself does not reflect a common standard across the nation for massage therapy. The AMTA and FSMTB both advocate for consistent regulation of massage therapy to assist with portability of practice for massage therapists and for protection of the public.\textsuperscript{105,110} If fair and consistent regulation of massage therapy can become more uniform across the US, the public can be assured that national standards have been set and individuals practicing massage therapy will be held to those standards. For therapists, portability of practice, moving from one state to another and being able to legally practice would be facilitated if the regulatory standards are made consistent across the country. Therefore, this inconsistency in regulation across
the US has caused some challenges to the profession.

**Massage Therapy Education**

Massage therapy education is classified as either initial education or continuing education. Initial education is that education needed to be able to obtain credentials in order to practice massage therapy in a regulated state; continuing education is education that is acquired as a means for professional development and/or to maintain licensure/credentials.

Currently massage therapy initial education is inconsistent across the United States.\(^40\)\(^44\) It has been reported that change is need for massage therapy education to include critical thinking and clinical reasoning to be able to move more into a healthcare and outcome based model.\(^45\) Many initial education institutions focus more on filling classroom hours than fulfilling competencies for the profession.\(^44\) One way to combat this issue is to require massage schools and programs to be accredited; unfortunately, most states do not see the need for massage therapy initial education programs to be accredited. Currently, only 5 states and the District of Columbia states require massage therapy schools to be accredited. However, some schools and programs are choosing to become accredited of their own volition.

Only one accreditation agency, the Commission on Massage Therapy Accreditation (COMTA), has been approved by the US Department of Education for the accreditation of massage therapy institutions and programs.\(^44\) Although other agencies can grant accreditation of higher learning for an institution, only COMTA has massage-specific standards and competencies in massage and bodywork. Of those schools that are
choosing to become accredited, and those which are required to be accredited, many are not to be choosing COMTA. Currently on 65 programs out of approximately 1,300 in the US are COMTA accredited.\textsuperscript{44,48,50,111} However, it appears that those students who attend COMTA accredited programs and/or schools may receive a better education for their financial outlay.\textsuperscript{44} COMTA bases its accreditation on 18 different competencies rather than classroom hours or titles of courses which allows for flexibility for schools in their curriculum.

Shroff and Sahota mention in their article about massage therapy in British Columbia, Canada that to move the massage therapy field forward bachelor level degree programs in massage therapy would be advantageous.\textsuperscript{46} While associates degrees in massage therapy are available throughout the country through community colleges in the US, only one bachelor’s degree program is available. Some see massage therapy simply as vocational training to teach students how to provide a service, while others seek to fully integrate students into health care settings.\textsuperscript{44}

\textit{Competencies}

Identifying competencies for a profession is essential in helping to clarify the needs, education, and purpose of the industry. Competencies have been identified by COMTA for massage therapy initial education, these competencies include: structure and function of the human body in health and disease; effects of touch, massage and bodywork techniques; healthcare and bodywork terminology; therapeutic environment; wellness model; assessment and data collection; clinical reasoning and treatment planning; organization and management of the client session; application of techniques;
equipment and supplies; hydrotherapy; self-assessment and stress management; self-care and performance; communication in the client-therapist relationship; professional boundaries; professional ethics; basic business practices; job search and marketing; professional referrals; professional relationships; history of the profession; ongoing education; and research literacy. However, some competencies may be missing from initial massage therapy education. Brett et al state the importance of all CAM professions to require competencies in health communication, health promotion, public health and interprofessional communication and cooperation. It may be time to reevaluate massage therapy education to include additional competencies.

**Settings/Context**

Context and setting may have a profound effect on massage therapy, Brett and colleagues clearly state many of the issues surrounding massage therapy including the issue surrounding settings. The wide acceptance of massage therapy by the public for massage to help with pain and stress reaches back in history for thousands of years; however, the fact that massage is accepted in so many different settings may be a hindrance to the profession. For example, massage is offered in both hospital settings as well as spas and on beaches; investigating if these contexts influence outcomes and the goals set in each of these settings differ could influence future research. Understanding the similarities and differences in these types of contexts and how these settings may influence massage therapy and potentially outcomes is essential. While massage therapy in non-healthcare settings can be beneficial, the effect of the setting on therapy outcomes has yet to be investigated.
Isolation

Massage therapy practice in and of itself can be isolating for the practitioner.\textsuperscript{40,113} Massage therapists generally work with one person at a time, and generally in a quiet setting. Massage therapists are trained to keep conversation to a minimum during sessions, or at least not start conversations, to enhance the possibility of relaxation for the client. These setting parameters can lead to long stretches of time throughout the day where little to no conversation happens. Fortune and Gillespie postulate that even for those therapists in group practices, isolation can be a factor that can increase anxiety for therapists.\textsuperscript{40} Too much isolation may have an influence on the high attrition of therapists in the field.\textsuperscript{48,50} This sense of isolation, and may also influence therapy outcomes if with complex cases, therapists have few professional peers to help gain insight into possible treatment options.

Division in the profession

The field of massage therapy is currently divided between those evidenced-based therapists who want to be included in healthcare settings and those who have no interest in using science to support practice or practicing in healthcare settings. This division becomes even wider when including those modalities which have little to no evidence base but have a passionate group of followers and practitioners who insist on the modalities validity. One expert in the field has been heard to say about this divide is “those who believe that massage is magic versus those who believe it is medical.” While no United States literature discusses this divide in the profession, it can be seen through the lens of social media professional group discussions and discussion at professional
meetings. A group of researchers do identify the “identity crisis” for the profession in Canada, which seems to mirror the problems in the US. These Canadian researchers found that some professionals think that to improve business for massage therapists the profession should be connected to aesthetic and cosmological services, while others want to be affiliated with the medical community and still others want massage therapy in the wellness/prevention role. These identity crises are a barrier to the advancement of the profession in Canada and similar crises appear to be occurring in the US.

**Frameworks for Practice**

Clarifying issues with current frameworks, as well as identifying areas that have been neglected in previous frameworks is necessary in working towards best practices. It is important to understand that some investigation into potential frameworks has been explored. It has been noted that massage therapy is analogous to psychotherapy sessions and treatments in a number of ways; they are structured similarly based on time and attention and have similar outcomes for anxiety and depression.

Currently, massage therapy treatment, one small aspect of massage therapy practice, and has been described as having four phases including evaluate, plan, treatment, and discharge. These elements seem more about how massage therapy is practiced rather than treatment itself. When consulting the National Guidelines Clearinghouse, which is the national online storage location for evidence-based clinical practice guidelines to help improve health care, treatment is described as “procedures or practices that are intended to relieve physical or mental illness or injury.” Evaluation and monitoring (which includes discharge), as well as implementation tools to help with
decision making, and planning process are included in other categories rather than treatment. Therefore, massage treatment would not necessarily include evaluate, plan, and discharge; these elements are a part of the way a massage therapist would deliver care in practice versus treatment itself.

No research to date has looked at the concept of the client feeling safe in the environment to receive treatment. It is important for the massage therapist to create a feeling of safety within the environment where clients may feel very vulnerable, especially when unclothed and about to be touched by a stranger. Learning to put patients at ease may be essential for positive therapy outcomes.

Part of feeling safe may be influenced by the therapeutic relationship between the client and the practitioner. The therapeutic relationship may improve therapy outcomes and it appears that improved communication skills can help to facilitate a therapeutic relationship. In psychotherapy, two factors comprise the therapeutic relationship, a collaboration between the patient and therapist on the goals for treatment and a positive therapeutic bond. In a small study with patients with anorexia nervosa who received either acupuncture or massage therapy, Fogarty et al. found that both groups identified specific aspects of the therapeutic relationship which they found most helpful; these elements included empathy, non-judgmental response, positive regard and acceptance, and having someone to talk to, and contact with the therapist. While this study did not look at the effects of the therapeutic relationship, it did suggest future research in the area.

Participants in a study, which looked at consumer views of massage therapy in
New Zealand, found that one area of particular importance was the relationship between client and therapist. This relationship may allow for more depth and intensive treatment, more positive outcomes of treatment, and may be closely associated with therapeutic relationships in psychotherapy.¹²² Consumers of massage in New Zealand have indicated that massage therapy encounters are given more value by the therapeutic relationship, the time and attention given to them during sessions, a therapist being able to competently apply their knowledge in the session, effective touching with adequate pressure to the body region and to identify areas of the body in need of extra therapy, and creating a relaxing environment.¹²² These elements also may improve therapeutic outcomes. The concept of investigating the therapeutic relationship in massage therapy research has been mentioned as it may have a mediating or a moderating effect on outcomes.⁶ Interestingly, one small study indicates that nurses using massage therapy can help to improve the therapeutic relationship between nurse and patient.¹²³

The experience of the therapist may also have an impact on therapy as well as therapy outcomes. One small study found that an experienced practitioner of massage therapy was more successful in relieving neck and shoulder stiffness in clients when compared to students at different levels of education.¹²⁴ Additionally, Moraska found that the level of a therapists’ education, specifically the number of hours of education, had an impact on post-race recovery for individuals who competed in a 10k run. Those runners who saw therapists with more education hours completed had a greater reduction in muscle soreness.¹²⁵ Furthermore, massage therapists who are experienced in examining clients’ skin on a regular basis are more comfortable discussing options and referring clients to other healthcare professionals for potential skin cancers.¹²⁶ Finally, one
A qualitative study indicated that a therapists’ experience in the field as well as experience with a particular client will impact the treatment and changes in treatment during therapy sessions. Although these studies were looking at differing outcomes, it may indicate that therapists’ level of education and experience may have a significant impact on therapy outcomes.

**Clinical Decision Making**

Little literature exists to assist massage therapists in their clinical decision-making. In investigating current clinical practice guidelines for massage therapy, many discuss best treatment options; however, few, if any, discuss the importance of, or processes for, clinical assessment and evaluation. In other health related professions with clinical practices, client/patient assessment and evaluation is considered a tool vital in identifying contraindications for treatment, risk factors, and client’s goals; assessment and evaluation is used to inform clinical decision-making and treatment planning.

**Synopsis**

With large number of individuals seeking massage therapy as treatment and appreciating the amount of dollars spent on the industry, investigating ways to improve the profession seem warranted. Understanding the challenges to the profession allows ways to seek to resolve the issues. Investigating massage therapy and massage therapy practice may provide guidance to those who seek to provide solutions to the challenges, which may eventually improve practice, education, research, and policy for the profession.
CHAPTEB 3

METHODS

Aim of the Study

The aim of this study was to determine how massage therapy experts understand and describe the field of massage therapy.

Examination of the data will be guided by the following specific aims:

Specific aim 1: To examine how experts in the profession define and describe massage and massage therapy and frame the practice of massage therapy.

Specific aim 2: To examine how experts in the profession define and describe massage therapy practice.

Qualitative Research Approach

This qualitative study entailed secondary data analysis of cross-sectional data using a grounded theory approach. Grounded theory is often used to help develop theories and in the creation of conceptual models and frameworks from social research and examples can be found from research in nursing, athletic training, medicine as well as other fields. Applying a grounded theory methodology is inductive, in that the researcher begins with no set hypothesis and allows the theory to emerge from the data. The use of grounded theory in this case is essential as this study aims to
examine the opinions of experts in the field of massage therapy and use their perceptions to clarify constructs within practice of massage therapy.

**Project Overview**

Prior to and early in the 1990s, initiatives from American Massage Therapy Association (AMTA), National Certification Board for Therapeutic Massage and Bodywork (NCBTMB) and Association of Bodywork & Massage Professionals (ABMP) included the development of Codes of Ethics for each of these organizations which began by summarizing the general standards and principles of acceptable, ethical and professional behavior. The AMTA also created a Grievance Committee whose purpose was to handle infractions to the AMTA Code of Ethics. A Code of Conduct (Behavioral Guidelines) was also created to further define the Code of Ethics to assist massage therapists in managing themselves.

In 1996, these previously mentioned organizations began to create and implement a new document which would define and describe professional, successful, and safe massage therapy environment and business practices; these became known as the Standards of Practice. In 1997, a project began to report Standards of Care in massage therapy practice which would address the decision making processes of professional massage therapists in clinical practice from client intake through treatment and conclusion of care; Standards of Care are also known as Best Practices. The Standards of Care project was never completed; but in 2005 the project was brought to the Massage Therapy Foundation (MTF). In 2006, the project was adopted and the MTF Board of Trustees formed the Best Practices Committee (BPC).
In an effort to create guidelines for the massage profession, BPC of the MTF
began their work by researching processes for creating best practices in other professions,
looking at the available literature in massage therapy, and considering at the clinical
experience of practitioners and clients. The guidelines were to be “evidence based”,
meaning guided by the literature and clinical practice. The conclusion was that the best
way to gather information would be to hold a symposium with experts in the field
including educators, researchers, and practitioners. A paper was published in 2008
discussing the need for Best Practice Guidelines as well as the proposed method for a
suggested symposium.146 A two-day symposium was held in 2010 in conjunction with the
MTF’s Highlighting Massage Therapy in Complementary and Integrative Medicine

Setting description

Prior to the symposium all participants were sent nine preparatory exercises and a
list of literature to read to help guide discussions. The BPC concluded that a World Café
style symposium147 would be the best method to gather information from the participants.
A World Café model engages participants in dialogue, supports contributions from all
participants, allows for diverse ideas and sharing communal thought processes, and helps
to discover patterns.147

In the meeting space, six round tables were set up with each table including space
for a host/facilitator, six participants, butcher paper, crayons, and a recording device. The
table host was not expected to moderate discussions but actively participated with the
other invited guests. The symposium was dived into four segments over two full days.
Each segment began with a presentation by a member of the BPC, which would establish guidelines for discussion as well as pose questions around the topic to be discussed. Each segment was scheduled to last three hours broken up into 45-minute sessions, then a 10-minute break and five minutes to change tables. At the beginning of the next round, after participants changed tables, the table host would summarize the previous conversation and ask the new participants at the table to summarize what happened at their table for the group conversation then built on the previous discussion. The participants were presented with Café etiquette (Figure 3.1) and were asked to listen, connect, contribute, play, and draw.¹⁴⁷

![Café Etiquette](image.png)

Participants

Purposive sampling was used when selecting participants for the symposium. The BPC was diligent in attempting to have balance by gender and geography, as well as between clinicians, researchers, and educators. They also attempted international representation. The BPC was concerned about a potential for the appearance of any real or perceived conflict of interest, so they purposefully did not invite any leaders from the professional massage organizations or providers of trademarked or registered styles of massage and/or bodywork.

The BPC limited attendance to 30 participants due to budgetary constraints. The BPC created a list of 53 potential invitees who were categorized into research, clinician, and educator groups, reflecting gender and geographic balance. An initial inquiry discussing the dates and location along with a project outline was sent to each of the 53 individuals asking for response of interest in participating and availability. Once the BPC received all the responses, they discussed the qualities and advantages of each potential individual and then decided to send invitations to a total of 36 people. Invited participants were offered reimbursement for travel and hotel accommodation as incentive to attend. Of those who received invitations five declined and allowing for a total of 31 people participating in the symposium; of these participants nine were male and 22 were female.

Data collection

Four topics of discussions were presented at the symposium: offering context, massage and stress reduction, massage and low back pain, and managing the information. The questions for each topic are listed in Table 1 and the full power point presentations
are provided in Appendix C.

Table 3.1 Questions posed to symposium participants in each round

<table>
<thead>
<tr>
<th>Topic</th>
<th>Questions</th>
</tr>
</thead>
</table>
| 1. Offering context          | • If best practice guidelines are the answer, what is the question?  
                                 | • What do we not know, that if we did know, would make the most difference to this field?  
                                 | • What do we not have, that if we did have, could transform the future of Massage Therapy?  
                                 | • For what do you wish you had guidance?  
                                 | • For what do you wish others in your community of practice had guidance? |
| 2. Massage and stress relief | • From your experience and reading, what effects does massage therapy have on stress?  
                                 | • What guidance would be helpful to a massage therapist who has a goal to help his/her clients reduce the effect of stress on their health?  
                                 | • What is the role of massage therapy in stress management?  
                                 | • Reduce stressors?  
                                 | • Improve the client’s ability to “cope” with stress?  
                                 | • Decrease the effects of stress on the body? - on the mind?  
                                 | • Others? |
• What role does context play in the clinical encounter where the goal is stress reduction?

• What assumptions exist related to the effect of massage therapy on stress that should be challenged?

• What are the red flags or contraindications in the context of massage therapy for stress management?

• What do we still need to learn about the role of massage therapy in stress management?

• What is the next level of thinking we need to address to reach our goal?

3. Massage and low back pain
• What else do we know from experience?

• What do we need as proof of usefulness?

• What guidance would we like to have?

• What guidance would we wish others to have?

• What don’t we know that would change massage practice for LBP?

• What might we need to unlearn?

• The question that is at the true core of all that we do…

• Just who will be…

4. Managing the information
• What knowledge do we have?

• What is our knowledge based on?

• How do we know what we know?
Each round was electronically recorded and professionally transcribed for a total of 53 recorded sessions. The recordings lasted in length from 0 minutes (the recorder stopped working) to 178 minutes (recorded multiple rounds in a row) for a total of 2,679 minutes or 44.65 hours. The mean length of the recordings was 55 minutes and the median was 47 minutes.

Upon examination of the data after the symposium, the BPC determined that the recorded discussions seemed to be more general in nature about massage therapy and massage therapy practice rather than specific protocols driven by the literature and/or experience on how to treat lower back pain and stress. The project was put on hold until April 2014, when the MTF Board of Trustees and the BPC decided to partner with an academic institution to get the data analyzed and published. That is when I became involved. All data in this project were gathered prior to my joining the project; therefore, this study is considered a secondary data analysis. I began working with the data after the transcription process and I did not use the original codes developed by the BPC.

Data management

All conversations from the symposium were collected electronically and uploaded to off-site, secure document storage. Transcripts were also held in the same location.

Data analysis

Data analysis was an iterative process; best practices for analyzing qualitative
data were followed by first checking each transcript for accuracy by one individual (ABK). While listening to the recordings and checking the transcripts, memos were written and open coding began with the first author creating an initial qualitative codebook that would help guide analysis. Reflecting on these data helped to revise and reform the codebook and helped to guide analysis. The initial codebook was taken back to the BPC for comment and revision. The BPC agreed with the proposed codes and offered some advice on potential grouping of themes; for example listening, nurturing, and attention may be grouped under the theme of caring. Revisions were made based on feedback from the committee and reflecting on the data. The preliminary codebook appears as Appendix D.

This codebook along with all the transcripts were entered into QRS NVivo 10 for qualitative data management, coding, and analysis. A two-person team including the first author and RT coded the transcripts independently and met regularly to discuss and clarify emergent themes. Through the first cycle of coding, coders used provisional, descriptive, process, and simultaneous coding. Provisional coding addresses the fact that an initial codebook was created and in which the codes can be revised, modified, and/or deleted when necessary. Descriptive coding “assigns labels to data” and helps with grouping topics. Process coding is looking at the actions happening in the data; this study was looking at the behaviors, such as when a participant was either helping or blocking the process. Simultaneous coding was utilized when more than one single code was applied to a “chunk” of data showing the overlapping of concepts. After the initial coding pass by both coders, axial coding began investigating how the codes related to each other. Finally, theoretical coding occurred to help identify the central
Ethical Considerations

Ethical considerations include Institutional Review Board (IRB) approval, the anonymity of the participants, and the security of the documents. The University of South Carolina IRB approved this project. As for participant anonymity, the professionally transcribed data mostly withholds the participants’ names and uses the terms FEMALE or MALE to identify the speaker; however, at times the transcriptionist does assign a name to the speakers if they were identified in the recordings. The transcriptionist did not always accurately assign the name to the correct speaker; therefore, it cannot be trusted that the person identified was actually speaking and should simply be acknowledged that a different person was speaking than the previous person. No names will be reported in the manuscripts as to help maintain anonymity. Finally, all documents are secured in cloud-based storage system which is password protected.

Trustworthiness

An additional coder was employed to improve the credibility of the findings. When considering the qualifications of this researcher it was decided that the person should be familiar with massage therapy and would be best if the person was familiar with the BPC project and understood the practices of qualitative coding. The need for a coder was taken back to the BPC to ask if any of the committee members had the time and inclination to take on the responsibility and two BPC members showed an interest. Ravensara Travallian, LMT, PhD, from the BPC was chosen as the additional qualitative coder. Both coders worked independently and met by phone on a regular basis to discuss

themes from the data.\textsuperscript{151}
the project. Each coder was able to create emergent codes if needed.

Additionally, the results were presented to the participants in 5 different web conference formats. This member checking was kept to a maximum of 10 participants per conference to allow all members time to speak and be heard and discuss the results.

**Potential Research Bias**

With the criteria for reporting qualitative research\textsuperscript{152} in mind, a reflection on my participation with this project and my relationship to the data and the subject are important. I have been a South Carolina state licensed massage therapist since 1999 and began volunteering for the AMTA on a state level in 2000. Through that volunteer work at the state level, I became acquainted with the national AMTA volunteer groups and began my tenure on the National AMTA Governance standing committee in 2006. I was also asked to join the National AMTA Chapter Relations Committee in 2008. I have also served on other workgroups, committees, and commissions where needed or elected for the AMTA.

Through my volunteer work with the AMTA I was introduced to the MTF. I began volunteering for the MTF on the Community Service Grants Review committee 2010 and was then asked to Chair the Chapter Outreach Workgroup in 2011. In 2012, I was elected to the MTF Board of Trustees and I was re-elected to this position in 2014. It was through these volunteer positions that I began to learn about the BPC and the Best Practices project; however, I was not a part of the MTF Board of Trustees when the symposium was held nor did I attend the research conference that year. Through my work with the board of trustees, I learned about the struggles of the committee and the
difficulties they were facing; however, I was never a part of the committee.

When I began my doctoral studies in 2012 I began considering dissertation ideas; all ideas focused in some part on massage therapy. I had had a course in qualitative research and did find the process interesting; and my independent study, as well as a project for the American Public Health Association Conference in 2014, were based on qualitative methods.

At the April 2014 MTF Board of Trustee’s meeting, the discussion around the BPC started. It was decided to partner with an academic institution to analyze and publish the data. This dissertation is the result of that partnership.
CHAPTER 4

RESULTS

Within this chapter are the results of the study divided into two manuscripts. The first manuscript, “Defining Massage Therapy and Describing a Framework for Practice: The Results of the Best Practices Symposium”\(^1\) will be submitted to the International Journal for Therapeutic Massage and Bodywork. The second manuscript, “Process for Massage Therapy Practice and Essential Assessment”\(^2\) will be submitted to the Journal of Bodywork and Movement Therapies.

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\(^1\) Kennedy AB, Cambron JA, Sharpe P, Travallian, R, and Saunders RP. To be submitted to *The International Journal of Therapeutic Massage and Bodywork*.

\(^2\) Kennedy AB, Cambron JA, Sharpe P, Travallian, R, and Saunders RP. To be submitted to *Journal of Bodywork and Movement Therapies*
4.1 Clarifying Definitions for the Profession: The Results of the Best Practices Symposium

3Kennedy AB, Cambron JA, Sharpe P, Travallian, R, and Saunders RP. To be submitted to The International Journal of Therapeutic Massage and Bodywork
Abstract

Background: Obtaining an accurate picture of a phenomenon requires accurate measurement but scientists cannot accurately measure something that is not clearly defined. Literature indicates that massage therapists are at times unclear about the definition of massage therapy, which creates challenges for the profession.

Purpose: To determine how experts understand and describe the field of massage therapy as a step toward clarifying definitions for massage and massage therapy, and framing massage therapy practice.

Setting: A two-day symposium held in 2010 with the purpose of gathering knowledge to inform and aid in the creation of massage therapy best practice guidelines for stress and low back pain.

Participants: 31 experts in the field of massage therapy from the United States and Canada.

Design: Qualitative analysis of cross-sectional data using a grounded theory approach.

Results: The recorded discussions, originally intended to help create best practice documents for stress and low back pain, reflected instead general discussion about massage therapy practice. Three over-arching themes were identified:
Discussion: Clarification of the definitions for massage and massage therapy, as well as framing the context for massage therapy practice are offered. By offering clarity, these first steps toward the ultimate goal of creating new theory for the field of massage therapy, which can then be applied in practice, education, research, and policy.

Conclusions: Foundational research into how experts in the profession understand and describe the field of massage therapy is limited. Understanding the potential differences in the terms massage and massage therapy could transform the profession in the areas of education, practice, research, policy and/or regulation. Additionally, framing the context for massage therapy practice invites future discussions with the opportunity to further clarify practice issues.

Introduction

Massage is generally defined as manipulation of soft-tissue whereas massage therapy is the systematic application of massage.\textsuperscript{1,2} Some sources extend the definition of massage therapy to include the systematic manual manipulation of soft tissue to enhance health and well-being.\textsuperscript{3} The Massage Therapy Body of Knowledge (MTBOK) definition of massage therapy also allows for health messages to be provided to clients/patients for self-care and wellness purposes.\textsuperscript{4} However, these definitions may not sufficiently express what happens within massage therapy. For example, asking individuals if they have ever had a bad massage rarely leads to the answer of only poor manipulation of the tissue.
Furthermore, Fortune and Gillespie have noted that massage therapists often lack consensus on how to define massage therapy and what makes an excellent massage session.⁵

Durlak and DuPre have noted that for science to get an accurate picture of a phenomenon, scientists must be able to accurately measure it, and scientists cannot accurately measure something that is not clearly defined.⁶ To better understand the process and outcomes and ultimately develop best practices for massage therapy, it is necessary to investigate how massage and/or massage therapy are defined and operationalized in practice.

**Project Overview**

In 2005, the Massage Therapy Foundation (MTF) adopted a project to create standards of care, also known as best practices, for the massage therapy profession; in 2006, the MTF created a Best Practices Committee (BPC) to facilitate the project. In an effort to create best practices, the BPC began their work by researching processes for creating these guidelines in other professions, looking at the available literature in massage therapy, and considering the clinical experience of practitioners and clients. The guidelines were to be “evidence based,” meaning guided by literature and clinical practice. The conclusion was that the best way to gather information would be to hold a symposium with experts in the field including educators, researchers, and practitioners. A paper was published in 2008 discussing the need for Best Practice Guidelines, potential topics for the proposed guidelines including massage therapy for low back pain, stress, and lymphedema management, as well as the proposed method for a suggested symposium.⁷ A 2-day symposium was held in 2010 in conjunction with the MTF’s
Highlighting Massage Therapy in Complementary and Integrative Medicine Research conference in Seattle, Washington. The intended purpose of the symposium was to gather knowledge to inform and aid in the creation of massage therapy best practice guidelines for stress and low back pain. However, upon initial analysis, the BPC realized they did not have the information needed to create the intended best practices. With the unexpected results, the BPC members were challenged with the best interpretation for these results. They knew the data was rich, intriguing, and valuable for the profession but were unsure how to proceed with the analysis. In April of 2014, the MTF Board of Trustees and the BCP decided the best course of action would be to partner with an academic institution to help analyze the data and publish the results. This paper is the first result of that partnership. Therefore, the purpose of this study is to examine the discussions from the symposium and determine how experts understand and describe the field of massage therapy as a step toward clarifying definitions for massage and massage therapy, and for framing massage therapy practice.

Methods

Qualitative Research Approach

This qualitative study entailed secondary data analysis of cross-sectional data using a grounded theory approach. Grounded theory is often used to help develop theories and in the creation of conceptual models and frameworks from social research, and examples can be found from research in nursing, athletic training, medicine as well as other fields. Applying a grounded theory methodology is inductive, in that the researcher begins with no set hypothesis and allows the theory to emerge from the
The use of grounded theory in this case is essential, as this study aims to examine the opinions of experts in the field of massage therapy and use their perceptions to clarify constructs within the practice of massage therapy.

**Sampling**

Purposive sampling was used by the BPC when selecting participants for the symposium. The BPC was diligent in attempting to have balance by gender and geography, in addition to balance between clinicians, researchers, and educators, as well as international representation. The BPC was concerned about a potential for the appearance of any real or perceived conflict of interest, so they purposefully did not invite leaders from the professional massage organizations or providers of trademarked or registered styles of massage and/or bodywork.

The BPC created a list of 53 potential invitees who were categorized into research, clinician, and educator groups, reflecting gender and geographic balance. An initial inquiry discussing the dates and location along with a project outline was sent to each of the 53 individuals asking for response of interest in participating and availability. Once the BPC received all the responses, they discussed the qualities and advantages of each potential individual and then decided to send invitations to a total of 36 people.

Invited participants were offered reimbursement for travel and hotel accommodation as incentive to attend.

**Setting description**

Prior to the symposium all participants were sent nine preparatory exercises and a list of literature to read to help guide discussions. The BPC concluded that a World Café style symposium would be the best method to gather information from the participants.
A World Café model engages participants in dialogue, supports contributions from all participants, allows for diverse ideas and sharing communal thought processes, and helps to discover patterns.\textsuperscript{20} In the meeting space, six round tables were set up with each table including space for a host/facilitator, six participants, butcher paper, crayons, and a recording device. The table host was not expected to moderate discussions but actively participated with the other invited guests. The symposium was divided into four segments over two full days. Each segment began with a presentation by a member of the BPC, which would establish guidelines for discussion as well as pose questions around the topic to be discussed. Each segment was scheduled to last three hours broken up into 45-minute sessions, then a 10-minute break and five minutes to change tables. At the beginning of the next session, after participants changed tables, the table host would summarize the previous discussion and ask the new participants at the table to summarize what happened at their table; group dialogue then built upon the previous discussion.

\textit{Data collection}

Four topics of discussions were presented at the symposium: offering context, massage and stress reduction, massage and low back pain, and managing the information. The questions for each topic are listed in Table 1.

Table 4.1 Questions posed to symposium participants in each round

<table>
<thead>
<tr>
<th>Topic</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Offering context</td>
<td>If best practice guidelines are the answer, what is the question?</td>
</tr>
<tr>
<td></td>
<td>What do we not know, that if we did know, would make the most</td>
</tr>
<tr>
<td></td>
<td>difference to this field?</td>
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<tr>
<td></td>
<td>future of Massage Therapy?</td>
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<tr>
<td></td>
<td>For what do you wish you had guidance?</td>
</tr>
<tr>
<td></td>
<td>For what do you wish others in your community of practice had</td>
</tr>
</tbody>
</table>
### 2. Massage and stress relief

From your experience and reading, what effects does massage therapy have on stress?

What guidance would be helpful to a massage therapist who has a goal to help his/her clients reduce the effect of stress on their health?

What is the role of massage therapy in stress management?

- Reduce stressors?
- Improve the client’s ability to “cope” with stress?
- Decrease the effects of stress on the body? - on the mind?
- Others?

What role does context play in the clinical encounter where the goal is stress reduction?

What assumptions exist related to the effect of massage therapy on stress that should be challenged?

What are the red flags or contraindications in the context of massage therapy for stress management?

What do we still need to learn about the role of massage therapy in stress management?

What is the next level of thinking we need to address to reach our goal?

### 3. Massage and low back pain

What else do we know from experience?

What do we need as proof of usefulness?

What guidance would we like to have?

What guidance would we wish others to have?

What don’t we know that would change massage practice for LBP?

What might we need to unlearn?

The question that is at the true core of all that we do…

Just who will be…

### 4. Managing the information

What knowledge do we have?

What is our knowledge based on?

How do we know what we know?

---

Each round was electronically recorded and professionally transcribed for a total of 53 recorded sessions. The recordings lasted in length from 0 minutes (the recorder stopped working) to 178 minutes (recorded multiple rounds in a row) for a total of 2,679 minutes or 44.65 hours. The mean length of the recordings was 55 minutes and the median was 47 minutes.
**Data management**

All discussions from the symposium were collected electronically and uploaded to off-site, secure storage. Transcripts were held in the same location.

**Data analysis**

Data analysis was an iterative process; best practices for analyzing qualitative data were followed by first checking each transcript for accuracy by the first author. While listening to the recordings and checking the transcripts, memos were written and open coding began with the first author creating an initial qualitative codebook that would help guide analysis. Reflecting on these data helped to revise and reform the codebook and helped to guide analysis. The initial codebook was taken back to the BPC for comment and revision. The BPC agreed with the proposed codes and offered some advice on potential grouping of themes; for example listening, nurturing, and attention may be grouped under the theme of caring. Revisions were made based on feedback from the BPC and reflecting on the data. The codebook appears as Supplement 1.

This codebook along with all the transcripts were entered into QRS NVivo 10 for qualitative data management, coding, and analysis. A two-person team including the first author and RT coded the transcripts independently and met regularly to discuss and clarify emergent themes. Through the first cycle of coding, coders used provisional, descriptive, process, and simultaneous coding. Provisional coding addresses the fact that an initial codebook was created and in which the codes can be revised, modified, and/or deleted when necessary. Descriptive coding “assigns labels to data” and helps with grouping topics. Process coding is looking at the actions happening in the data and in this study was looking at the behaviors that are indicated such as when a participant
was either helping or blocking the process. Simultaneous coding was utilized when more than one single code was applied to a “chunk” of data showing the overlapping of concepts. After the initial coding pass by both coders, axial coding began investigating how the codes related to each other. Finally, theoretical coding occurred to help identify the central themes from the data.

**Member Check-ins**

To improve trustworthiness of the study, the results were presented to the participants in five different scheduled web conference formats. This member checking was kept to a maximum of 10 participants per conference to allow all members time to speak and discuss the results.

**Potential Research Bias**

With the criteria for reporting qualitative research in mind, a reflection on the research team’s participation with this project and the relationship to the data and the subject are important. Only one member of the research team, RT, was an original member of the BPC that presented the symposium and also helped with the coding and analysis. Of the authors, four are massage therapists, who all have experience in massage clinical practice and/or research. Additionally, two of the team members along with RT, are associated with the MTF through volunteering for the organization, and one had received a MTF research grant more than 10 years prior to this study. The other author brings research expertise but is not associated with the MTF or massage therapy.

**Ethical Considerations**

Ethical considerations in this project included Institutional Review Board (IRB) approval, the anonymity of the participants, and the securing the documents in a
password protected, cloud-based storage system. The University of South Carolina IRB reviewed this project and the study was considered exempt from full review.

**Results**

The recorded discussions were intended to help create best practice guidelines around stress and low back pain; however, discussion was more general in nature about massage therapy practice rather than specific protocols to treat specific conditions.

**Participants**

Of the 36 individuals who received invitations, five declined and a total of 31 people participated in the symposium (86.1%). Of the participants, nine were male and 22 were female; no additional information is available about the participants’ education, experience, or other demographics. However, these participants were explicitly selected for their experience and expertise in the areas of practice, education, and/or research.

**Themes**

Three over-arching themes were identified within the symposium discussions: 1) defining massage, 2) complexity of massage therapy, and 3) framing massage therapy practice. Each over-arching theme had sub-themes, and those sub-themes will be discussed within each theme’s section.

**Theme 1: Defining Massage**

Many participants discussed the issue of a massage definition, with some trying to define it. Moreover, many of the participants indicated that massage was not simply touch or not simply soft-tissue manipulation. Therefore, two sub-themes were evident from the symposium: a lack of definition and massage as more than soft tissue manipulation.
Sub-theme: Lack of Definition

The participants seemed to struggle with characterizing massage, as one female participant stated “...we don’t even know what massage is.” The difficulty of defining massage was stated by many other participants and as this concept was found in almost half of all the transcripts.

Sub-theme: More than just soft tissue manipulation

Discussion about the lack of definition for massage led to exploration into what the participants felt was part of massage. Although the core of massage seems to be soft-tissue manipulation, the participants indicated that there is more to massage than simply soft-tissue manipulation, a discussion between three participants can be seen below.

FEMALE 1: I do, I think that there is a distinction between them [massage and soft-tissue manipulation]; but it's not about what we do to the tissue. I think, massage is creating change in the tissue. Relaxation massage, therapeutic massage, will create a change; you're applying a force. The distinction in my mind between massage and soft-tissue manipulation is the pattern, and the purpose, and the holistic nature of it. That's what makes a massage a massage, not just soft-tissue manipulation.

FEMALE 2: Well, and there's that question. [And] Massage is a part of body work, but is all body work massage? And that's right out of the Body of Knowledge. Massage is manipulation of soft tissue, but is all soft tissue manipulation massage?

FEMALE 3: But it's a patterned and purposeful and therapeutic intended manipulation of soft [tissue], you know a holistic therapeutic intention with the
soft-tissue manipulation. Whereas, soft-tissue manipulation can be cross-fiber friction at the lateral epicondyle...

**Theme 2: Complexity of Massage Therapy**

Massage therapy appears to be more complex than simply the systematic application of massage. This complexity can be seen in one of the participant’s thoughts. “...massage contains other elements of environment and psychosocial interaction beyond the mechanical or even neurological inputs of tissue, the input you're doing to the tissue.”

Sub-themes were identified within this theme: role of health promotion/education messaging, influence of therapeutic relationships and communication, influence of therapist experience, education and skill, and influence of environment and context. The participants seem to feel that these sub-themes, which they consider to be elements of massage therapy, may influence client outcomes.

**Sub-Theme: Role of Health Promotion/Education Messaging**

The experts felt that the non-hands-on component of discussing health messages and health promotion are an essential element to massage therapy especially in the role of self-care for clients, as one participant noted, “...consulting with the client on self-care issues, and within their [the therapist’s] scope of practice, advising exercise, walking, other activities.”

The symposium participants indicated these messages were an important part of massage therapy and these messages ranged from stretches to help maintain loose muscles, discussions about exercise in general and specifically exercises to reduce pain, and potentially messages around nutrition. These messages were at times referred to in
different manners from “client education” to “[client] self-care” to “homework” to “home care.” Three experts discussed some of these issues below:

FEMALE 1: It [advice on home care] is within the scope of practice then?

MALE: ... home care, that’s you know, stretching, hydrotherapy, moderation of workload. That’s all within the scope.

FEMALE 2: Making suggestions for or helping them brainstorm about things that they can do differently in their daily life. You know, “if you can’t - if you don’t think you have thirty minutes to go walk, do you have ten minutes three times a day that you could go walk, or five minutes, three times a day?”

Sub-theme: Influence of Therapeutic Relationships and Communication

The experts indicated that communication and therapeutic relationships are an important aspect of massage therapy; the experts also indicated that these therapeutic relationships and communication might influence therapy outcomes. To illustrate the importance of therapeutic relationships, one participant stated:

FEMALE: Presence, and the value of the therapeutic relationship is a defining factor in our profession that has been hugely under studied. Right? But we can look at the psychologist. We can look at other modalities where the value of the therapeutic relationship has been more thoroughly sort of pinned down.

The concept of communication within the therapeutic setting was also important to the participants. One participant stated:

FEMALE...what’s consistently there is that how you and I, as patient and therapist communicate, work together, listen to each other, and work with everything is...what is the profound nature of the therapy. And as a unique
position of the massage therapist in the medical community is that we are
providing them with an hour of undivided attention, and listening to their whole
story.

Sub-theme: Influence of Therapist Experience, Education, and Skill

The next sub-theme identified by the experts is that therapist experience,
education, and skill will also influence the treatment, the plan of care, and potentially the
outcomes. This can be seen in the discussion below:

MALE: ... we talk about the five hundred hour therapist or the three thousand
hour therapist. And really when they come out of school, they’re all here. Right?
FEMALE: Until you’ve touched a thousand people. Yeah.
MALE: Yeah. And it’s the practical experience that really gives you the true
knowledge. Right? Whatever level of entry you have. And they need to understand
that, is that they’re entry level and just because you’ve done school doesn’t mean
you know enough.

Sub-theme: Therapeutic setting

The experts noted that massage therapy outcomes are also influenced by the
therapeutic setting in which they are performed. One participant said, “And, not to forget
the element of the environment in which the massage is being given. The sound and the
light and all those together bring about some effects, so it's not just the touching alone.”
Additionally, the experts discussed the concept of how treatment may be different
depending on the setting in which it is given. As one participant stated, “I just have to say, from my own personal experience, that when I’ve had a massage in a resort or spa
setting, that is obviously, sort of a prescribed protocol that really doesn’t take into effect who the person is on the table.”

**Theme 3: Framing Massage Therapy Practice**

This theme looks at contextual factors that may have an impact on the how massage therapy is practiced. This theme yielded multiple sub-themes including: safety, holistic practice, isolation of practice, and service or health industry?

*Sub-theme: Safety*

The concept of safety was of great importance for the participants, principally the idea that clients needed to feel safe to effectively be able to receive treatment. The import that these experts place on safety and the potential influence on outcomes from treatment can be seen in the below discussion between two participants.

**MALE:** So, what I hear you saying is, maybe that element of massage therapy, that safety component...I think it's something we talk about in a round about sort of ways; but you're suggesting that clinically, that's a critical element that massage therapy?

**FEMALE:** From my perspective, it's at the core. Whatever else we might do, if we're not facilitating a client to feel safe, if they remain guarded, if they remain slightly anxious then...

**MALE:** [interjecting] Outcomes are gonna be limited.

*Sub-theme: Holistic Practice*

The experts indicated that massage therapy practice is holistic care, which supports wellness and addresses the whole person. As one participant stated, “...we treat the whole person, but we also serve the whole person.” Moreover, participants spoke
about treating clients within their social structure potentially including their relationships within their family structure and their community. As one participant said

...inherent in all of that [working with clients] is emphasizing a team approach and team meaning not only other healthcare providers like physicians or chiropractors or PTs or neurologists, but also the individual’s team. Meaning the psychosocial. The psycho-behavioral, the behavioral, the occupational, and the self-care aspects of whatever it is in our interaction.

Sub-theme: Isolation of Practice

The participants expressed that one aspect that seems to shape the profession is the fact that massage therapists are often practicing alone. Therapists, in general, practice without any other professionals to check in with about client issues. As one participant purported: “I think a lot of practitioners tend to feel very isolated, because a lot of them work in private practice. It's not...it's more common than it used to be, but it's still not the norm, for say hospitals to have massage therapists as part of the healthcare team.”

Sub-theme: Service or Health Industry?

Participants discussed in which industry massage therapy practice belonged. There was not agreement on this issue; some felt that massage was part of the service industry and one participant said, “I think that it’s a service industry. As a service industry, yeah, not everyone considers us to be [in the] healthcare field.” Others felt massage therapy was part of health promotion and healthcare:

FEMALE: We're in the field of health and healthcare and delivery system and disease model. And we also toggle between that other space where sometimes we're put in that spa setting, or we're put in that – I just wanna feel good setting.
But, if we're gonna keep ourselves, our profession, in the context of actually being healthcare providers, that is health promotion. And that's a field within Public Health. It's an area; it's still in development. And it's, in my mind, you have health promotion as kind of the overhead, and then you have prevention, and then you have these other little chronic conditions, and all of these other places where we actually fit. So if we look at ourselves as health promoters, then we fit into that realm of healthcare provider as health promoters.

Some felt that the line between service (spa) and healthcare was blurry. As one participant noted:

   MALE:...the line between spa, and a very clinical environment is much blurrier than you might think. Because people who have been to that spa, they're coming in to get pampering, and to cash in their Mother's Day gift certificate, or whatever it is. And they expect, a lot of times, a treatment plan. Like, I've got this ache and this pain, and they expect clinical outcomes from that type of environment.

It was clear that this non-agreement on where the profession is situated in industry could have an impact on how massage therapy may be practiced.

**Participant Check-Ins**

To help improve the validity of the results, five web conferences were conducted to see if the participants agreed with the findings drawn from the symposium. A total of nine of the original 31 symposium participants joined in the member check-ins and their feedback has been incorporated into the final results.
All the participants who did participate in the web conferences agreed with the conclusions drawn by the research team. One participant stated that they hoped that these results would help to “create a bridge between practice and research.”

**Discussion**

As identified by the experts from the symposium, clarification of the definitions for massage and massage therapy, as well as framing the context for massage therapy practice are needed. The results of this symposium indicate that the current definitions require clarification as the experts indicated confusion over how to operationalize different aspects of the field. The final phase in grounded theory methodology for qualitative research is to compare the emergent themes to concepts in the literature. Therefore, this paper hopes to contribute clarity to the field with definitions and framing the context for massage practice. These are the first steps toward the ultimate goal, creating new theory for the field of massage therapy, which can then be applied in practice, education, research, and policy.

**Massage**

A large part of the lack of clarity in definition may be due to the common practice of using the terms “massage” and “massage therapy” interchangeably when, in fact, they appear to be two separate concepts. Symposium participants felt that massage is more than simply soft tissue manipulation as it is usually defined in the literature. As stated previously, MTBOK does give a more complete definition, however, the “patterned and purposeful” aspects of massage seem to be missing.
Therefore, for defining the construct massage, we have modified a portion of the MTBOK\textsuperscript{4} definition and incorporated the concept that massage is more than soft-tissue manipulation from the symposium participants; with the following definition:

Massage is a patterned and purposeful soft tissue manipulation accomplished by use of digits, hands, forearms, elbows, knees and/or feet with or without the use of emollients, liniments, heat and cold, hand-held tools or other external apparatus for the intent of therapeutic change.

\textit{Massage Therapy}

As the participants noted, massage therapy seems more complex than simply the application of massage. Participants noted that the health messaging occurs within sessions is often ignored as part of massage therapy. The literature does indicate there is a non-hands-on portion. This can be seen within the MTBOK\textsuperscript{4} definition as well as the Boulanger and Campo study, which documented massage therapists performing health promotion activities within practice such as increasing water intake, stretching for self-care, and stress management activities.\textsuperscript{27}

As the participants stated, therapeutic relationships are an understudied area within the profession. Research from New Zealand did find that the relationship between client and therapist was of particular importance. This relationship may allow for more depth and intensive treatment, more positive outcomes of treatment, and may be similar to the therapeutic relationships in psychotherapy.\textsuperscript{28} More research is needed to investigate the therapeutic relationship within massage therapy. Additionally, communication in and of itself has been seen as a way to improve the therapeutic relationship in other professions, but has not been examined within massage therapy.\textsuperscript{29–31}
It also seems as though therapists’ education and experience may have an impact on therapy as well as outcomes, as the participants noted as well.\textsuperscript{32,33} Finally, it has been mentioned in the literature that the therapeutic setting in which massage therapy is delivered may have an influence on outcomes, but that has yet to be studied.\textsuperscript{34} It seems as though participant discussion was consistent with reports from the literature. Therefore, the massage therapy construct is defined as:

Massage therapy consists of the application of massage and non-hands-on components including health promotion and education messages for self-care and health maintenance; therapy as well as outcomes can be influenced by therapeutic relationships and communication; the therapist’s education, skill level, and experience; and the therapeutic setting.

An illustration of the massage therapy definition can be seen in Figure 4.1. Each of these levels builds upon each other and may influence the levels within it as well as outcomes.
Figure 4.1 Conceptualization of massage therapy definition. The hands on portion as well as the non-hands on portion is seen in the center and therapy as well as outcomes may be influenced by the layers including therapeutic relationships and communication, the therapist’s education, skill level and experience, as well as the therapeutic setting.

**Framing Massage Therapy and Massage Therapy Practice**

With the constructs of massage and massage therapy now clarified, it is important to turn to massage therapy practice. A separate manuscript has been created to examine massage therapy practice as a process and is beyond the scope of this manuscript. However, the participants indicated important contextual factors that may impact the way massage therapy is practiced, which are addressed here. The Bronfenbrenner ecological framework assists in understanding the multiple layers of contextual factors, which appear impact massage therapy practice. Bronfenbrenner’s framework considers multiple levels of contextual influence on human development; micro, meso, exo, and
macrosystem levels. In this context, applying the results of the symposium to the model, micro, meso, and macro levels have been identified. The micro-level includes those practice elements that are client-focused. Meso-levels are therapist focused; this is the portion of practice that directly impacts the individual therapist on a personal level. Finally, the macro-level are system focused. The framing elements identified by the participants are micro-level safety and holistic practice, meso-level isolation, and macro-level the division in the profession (Figure 4.2).

![Diagram of Massage Therapy Practice with Micro, Meso, and Macro Levels]

**Figure 4.2 Framing massage therapy practice with Micro (Safety and Holistic Practice), Meso (Isolation of Practice), and Macro (Service or Health Industry?) levels.**

Two concepts are specified on the micro-level of contextual elements that frame massage therapy, safety and holistic nature of practice. The participants indicated very clearly that a safe environment is at the forefront and needs to be established in the beginning of the client/therapist relationship. It is important for the massage therapist to create a feeling of safety within the environment where clients may feel very vulnerable,
especially when unclothed and about to be touched by a stranger. Learning to put patients at ease may be essential for positive therapy outcomes; however, no research to date has looked at the concept of the client feeling safe in the environment to receive massage therapy.

The participants noted that massage therapists worked in a holistic manner and addressed the “whole person” during care, and this included working within the client’s social context. The wellness model looks at health from a holistic perspective in which the mind and body are seen as interconnected. Studies have noted that massage therapists tend to practice holistically by attending to both internal and external factors when treating a client.

The middle influence, or meso-level, focuses on the context for the therapist. The participants discussed the solo nature of massage therapy practice and how therapists may feel isolated. Research also indicates that massage therapy practice can also be isolating. Fortune and Gillespie postulate that even for those therapists in group practices, isolation can be a factor that can increase anxiety for therapists. Too much isolation may influence how massage therapists practice and may be one reason for the high attrition of therapists in the field. Isolation could be studied in the future to investigate the impact on therapists and practice.

Finally, the macro-level, or that level which is the participants noted a lack of consensus to which industry massage therapy belongs; they were not clear if massage therapy belongs in a service or health industry or both industries simultaneously. While no United States literature discusses this divide in the profession a group of researchers identify the “identity crisis” for the profession in Canada, which seems to mirror the
problems in the US. These Canadian researchers point out that to improve business for massage therapists the way to go is to be connected to aesthetic and cosmological services, while others point to the medical community and still others want massage therapy in the wellness/prevention role. These identity crises are a barrier to the advancement of the profession in Canada and similar crises appear to be occurring in the US.

Limitations

This study does have its limitations. In particular, while the purpose of the symposium was to create best practices for massage therapy on stress and low back pain; the data gathered did not support these topics. Additionally, the participants themselves were very experienced and they themselves may have had biases, which may have skewed the discussion. Also, while these results were presented to participants through the member check ins, only 29% chose to participate in the process and those who did not participate may not have agreed with the conclusions drawn from the data.

Conclusion

Foundational research into how experts in the profession understand and describe the field of massage therapy is limited. The analysis indicated a need for clarifying the definitions of massage and massage therapy, as well as describing the context for massage therapy practice. Understanding the potential differences in the terms massage and massage therapy could transform the profession from the areas of education, practice, research, policy, and/or regulation. As the experts themselves noted, massage therapy is complex and has many components that are not always recognized. Additionally, by acknowledging factors that may impact practice invites the opportunity for discussions on
multiple points including: how can massage therapists help their clients feel safe? How does the profession help to limit the isolation of the individual practitioner? What sort of messaging can the profession include to the public about the holistic nature of practice? Finally, in what industry does the profession truly belong?

While the goal of the BPC was to create condition-specific best practice documents, the participants felt that a foundational document was needed. This work may be that start of that foundation in which future best practices can be built.

**Authors’ Contribution**

ABK prepared the manuscript and analyzed the data.

JAC reviewed, revised, and shaped the manuscript.

PS reviewed, revised, and shaped the manuscript.

RT analyzed the data, reviewed, revised, and shaped the manuscript.

RPS reviewed, revised, and shaped the manuscript.

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LMT, past chair of the BPC, his dedication to the profession and to the project as well as availability to answer questions is truly appreciated.

**Conflict of Interest Notification**

ABK and JAC both sit on the Board of Trustees for the Massage Therapy Foundation (MTF).

RT is a volunteer for the MTF and was part of the Best Practices Committee that produced the symposium that generated the data.

PS received a grant from the MTF more than 10 years prior to this project.

RPS declares no competing interests.

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4.2 PROCESS FOR MASSAGE THERAPY PRACTICE AND ESSENTIAL ASSESSMENT

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Kennedy AB, Cambron JA, Sharpe P, Travallian, R, and Saunders RP. To be submitted to *Journal of Bodywork and Movement Therapies*
Abstract

**Background:** Little evidence exists about processes in massage therapy practice. Investigating current frameworks is warranted. This qualitative study is a secondary data analysis using grounded theory to understand how massage therapy experts describe massage therapy practice.

**Methods:** 31 massage therapy experts were invited to a 2-day symposium to discuss best practices for the profession. Through qualitative analysis, memoing, and discussion, the data were summarized into themes.

**Results:** Three themes were identified around massage therapy practice: 1) client centered, 2) structure for practice, and 3) influencing factors. Each theme is clarified and expanded.

**Discussion:** Conceptual models were developed for research and clinical practice and a definition for massage therapy practice was identified. Challenges and limitations are discussed.

**Conclusion:** The goal of providing these models is to give massage therapists tools to deliver the best possible care. The models need testing to see if they help advance the profession.
Background

Large numbers of individuals seek massage therapy for wellness/disease prevention purposes\(^1\)–\(^5\) and research supports consumer-reported benefits including physical and psychological improvements. Research indicates massage therapy helps with anxiety,\(^6\)–\(^14\) depression,\(^9,12,13,15–19\) pain,\(^9,13,16,20–27\) stress,\(^28–32\) quality of life,\(^33–39\) as well as other conditions in varying populations. Massage therapy therefore can have a profound effect on health and wellness; however, little evidence exists in the scientific literature about processes that occur in clinical practice.

Investigating current massage therapy practice frameworks is warranted to determine if the frameworks and models for practice should be revised or updated. A previous paper clarified the definitions of massage, massage therapy, and the contextual elements that may impact massage therapy practice.\(^40\) For example, many people use the terms “massage” and “massage therapy” interchangeably even though the terms seem to reflect different concepts. This study builds on the previous study by focusing more specifically on massage therapy practice as a process.

Conceptual models and frameworks help visualize and understand complex concepts and processes. Conceptual models and frameworks can be used in clinical practice and to develop clinical practice guidelines.\(^41–43\) Some clinical practice guidelines for massage therapy discuss best treatment options; however, few, if any, discuss the importance of, or processes for, clinical assessment and evaluation.\(^44,45\) In other health related professions with clinical practices, client/patient assessment and evaluation are considered a vital tool in identifying contraindications for treatment, risk factors, and client’s goals. Assessment and evaluation are used to inform clinical decision-making and
treatment planning. Research indicates clearly defined assessments can lead to a more meaningful evaluation. Often times, the terms assessment and evaluation are used interchangeably; however, they are two separate concepts. Assessment is defined here as information and knowledge gathering to assist in evaluation. Evaluation is defined as the use of information from assessment to guide clinical decision-making and the development of plans of care.

In addition to assessment and evaluation within clinical practice, identification of other phases of practice is needed for massage therapists to bring the best possible care to their clients. Others have suggested massage therapy treatment has four phases including evaluate, plan, treat, and discharge. However, this framework may more accurately describe steps or processes within practice rather than massage therapy treatment phases and may not include all necessary elements of practice. Documentation and health messaging are not included within this framework for example.

**Project Overview**

In 2010, the Massage Therapy Foundation (MTF) Best Practices Committee (BPC) held a 2-day symposium in conjunction with the Highlighting Massage Therapy in Complementary and Integrative Medicine Research conference in Seattle, Washington. A World Café style format guided the discussions of Best Practices for massage therapy in treating low back pain and stress. During this symposium, the participants’ discussion focused more on processes for massage therapy than on specific conditions. Therefore, the purpose of this cross-sectional grounded theory study is to understand how experts in the field of massage therapy describe massage therapy practice as a process.
Methods

A full presentation of the methods reported previously are summarized here. Purposive sampling identified 31 invited guests with expertise in the field of massage therapy based on their experience as a practitioner, educator, and/or researcher. The symposium yielded approximately 45 hours of recorded discussions.

Two researchers coded the data and used QSR NVivo 10 for qualitative coding, analysis, and data management. The data were summarized into themes through an iterative process of qualitative data analysis, memoing, and discussion between the researchers.

The findings were presented in web conferences to a subset of nine participants who agreed with the conclusions drawn from the symposium data. The University of South Carolina IRB approved this project. All transcripts withheld participants’ names to protect anonymity.

Results

The symposium planners’ goal was to create best practices for massage therapy treatment of low back pain and stress; however, the symposium participants felt that a discussion about the foundations and fundamentals of massage and massage therapy were needed first. The participants' discussion focused on and elucidated elements of the process for massage therapy practice needed. Three themes were identified for massage therapy practice: 1) client centered, 2) structure for practice, and 3) influencing factors.

Theme 1: Client Centered

The participants felt that the needs, values, and preferences of the client should be considered by the therapist when making treatment decisions, reflecting an emphasis on
client-centered practice. As one participant said, “*We do need to be client/patient-centered in anything that we do.*” Another participant articulated, “*I think that compared to a lot of other health care professions, we’re very client-centered in terms of like mutual goal setting, and mutual decision making.*”

**Theme 2: Structure for practice**

The experts identified a structure for practice. This can be seen within the sub-themes of assessment and evaluation, plan of care, treatment, reassessment and reevaluation, health messages, documentation, and closure.

*Sub-theme: assessment and evaluation*

The area of assessment is rich and varied as described by the experts; they feel that assessment is critical. One participant stated, “*everybody at every table has talked about assessment as being essential.*” However, the participants felt that assessment should not take a large amount of time. Assessment appears to have four specific components: health-history, client goals, other assessments, and evaluation.

Assessment begins with the client health history. During this phase the therapist discovers if there are contradictions for massage treatment and considers referral to more appropriate practitioners if needed.

*MALE: The therapist should do a thorough intake. They should do a thorough assessment. They should document their findings. They should be aware of, be able to identify absolute contraindications and red flags that might require a referral or at least a consultation with another therapist. With another therapist within the profession or another practitioner outside [the profession].*
The participants indicated that part of the assessment should be to inquire about the client’s goals. These goals lead to other assessments depending on the nature of the goals. This can be seen in a statement from one of the female participants, “[I ask] Why they're coming in to see me? And then, I'm gonna ask questions.”

Participants felt that the goals would fall into 4 potential categories: reduce pain, reduce stress, improve function, or enhance well-being. Multiple goals may be identified and treatment time and client preference determine the course of treatment as well as the follow up questions related to the client’s specified goal(s).

To the participants, assessment questions are intended to help gather data to inform the subsequent evaluation and clinical decision-making. In particular, if pain reduction were client’s goal, the therapist would need to ask questions. Two participants discussed how they would talk about pain with their patients.

FEMALE: Ask - tell me about your pain.

MALE: So tell me about, yeah. Tell me about what's going on. How is this affecting you?

FEMALE: But, what is the severity? How long has this been going on? Do you have radiating pain? So, you're asking about the nature, the location, the severity, all the different aspects of that.

The participants also indicated that they would ask about stress. One female participant said, “One of the questions that's an intake in my clinic is, ‘What are the stressors in your life?’ And it’s very superficial, but if ‘it’s my husband, my son, my job.’ [LAUGH] You already have some sense of what’s going on in that person’s life.”
Participants also suggested that sleep disturbances and stress were highly correlated and indicated that assessments should include questions about sleep, as one female participant said:

*And then, that speaks to an assessment component; a comprehensive assessment for whatever that client describes their personal state of being. So if I say, ‘I'm not sleeping well.’ You need to ask me things like, ‘Well, can you fall asleep easily? And then you wake up? Or do you just have difficulty falling asleep?’ ‘Cause those two things would indicate, either you are not getting to a deep level of sleep once you fall asleep, or you have such a high-resting-muscle tension inactivity in your body that you can't get to that lower level.*

The participants also stated that they would discuss the effects of stress on the client’s body. One participant noted, “*Establish where the stress shows up in their body. How does it show up in their daily activities of daily living? Are you getting poor sleep? Upset stomach? Are you have any pain anywhere? How is it showing up?*”

Discussions indicated that some client’s goals might be to improve function as one female participant said, “*And sometimes the client goal is, ‘I need to be able to bend over to tie my shoes.’*” Participants also specified that clients may want enhanced performance, which could be indicated by their desire for more mobility in their shoulders so that they can more easily fasten their clothing in the back, or a desire to run a mile faster. Knowing these milestones keep therapy focused. Function can be measured function with simple numeric scale that may also include pain, “*I think it could be zero to ten scale for pain and function.*” Or function could also be measured by scales already in
use “…the Roland Morris Scale for example, one of the questions in that scale is, ‘I can put on my shoes and socks.’”

Finally, the participants emphasized that sometimes clients came in just because they wanted a massage. One male participant stated, “…they’re [the client] like... ‘You know what. I'm here to relax. I just wanna massage.’” The participants also saw improving well-being as improving quality of life. One participant said, “So, we need to give some rating to that. The section improvement in quality of life or well being.” The participants also communicated the possibility of using a quality of life scale, “maybe we use a quality of life assessment tool.”

The participants did not want restrictions from doing other assessments depending on their level of experience and education. These other assessments may take the form of simple observation of gait, non-verbal communication such as tone of voice and eye contact, postural analysis, range of motion, or any other assessments that could help plan treatment for a client. One participant summed portions of this other assessment in how she works with her clients.

When I take my clients back, I take them back myself. I walk behind them, and I watch how they move. So, I’m observing. And then, I wanna know, they've told me what their specific problem is. I wanna know, how do you sort of work? All right, I'm gonna have them...I may go on the computer, and actually have them show me. Sometimes I have people take pictures of themselves at work, and bring them in. I wanna know what they're doing when they're sleeping. What body positions they are using. How do they – how are they in their bodies for most of their day? And most people don't know what I mean. Well, I wanna know are you
sitting seventy-five hours a day? Or are you slouched on the couch for most of your day? Because that's gonna give me a lot of information!

The participants were especially concerned that assessments should not be limited and therapists should use any assessment that allows them to see the whole picture within their scope of practice. One participant stated, “…we talked about earlier in terms of assessment. If we limit ourselves to an intake, on a zero to ten measurement scale, and we don't do posture, and range of motion, are we gonna lose that ability to do posture, and range of motion testing?”

The participants stated that after assessments, therapists must then evaluate the information. The participants did not always refer to this process strictly as evaluation, one participant even said, “we do evaluation all the time, we just don’t call it that…” The participants tended to refer to evaluation as clinical decision-making and clinical judgment. One participant stated:

I used to always tell my students, you can’t use that ‘diagnosis is outside my scope of practice’ excuse to not figure out what’s going on with your client. I mean, not only is it your responsibility, I mean, why are you asking these questions about their health history and what they’ve got going on? To make some level of judgment about what’s going on in their body to inform your treatment, and at least you’ll know whether a referral is necessary.

Sub-theme: Plan of Care

The next step after assessment and evaluation, is for the therapists to create a plan of care. The participants stated that the plan of care should be evidence based and client centered. One participant said, “So, the plan of care then comes back to what do we know
about the evidence? What are the patient's preferences and what is our own clinician expertise suggest.” Therapists should discuss the plan of care with their clients according to the participants. One female participant stated:

…I've decided what my treatment plan is, which I'll be deciding in seconds. I am then going to describe that to my client to make sure that we are both agreeing on what's important for me to work on. And if this person has described multiple symptoms in seventeen different areas, I'm gonna tell them what I'm going to focus on that day, because I won't be able to focus on everything. And then, I'm gonna tell them what I'm gonna do with them, literally in terms of what kinds of things, if they've never had body work before.

Sub-Theme: Treatment

Treatment is where massage is applied. Treatment should be guided by the assessment, evaluation, and the plan of care. The experts at the symposium indicated that assessment and evaluation continue to occur during treatment, beginning with palpation.

Participants noted therapists themselves are instruments of assessment. Massage therapists use massage and palpation to help them to determine changes in treatment. Therapists are constantly assessing the tissue and changing treatment to address what they find. One female participant noted:

Not just pre and post, but the assessment being used throughout the entire session. And that palpatory, visual assessment, is what's used as the basis for adapting, and molding the details of what you choose to do as a practitioner.

Asking questions during treatment can also give the therapist vital information, which a client may think is irrelevant but may be very important. The participants said
that observations and questions during treatment can help guide sessions; one participant stated:

...during our work with them we wanna discuss, and pay attention to results of the pace of our work, slow, we go fast. Monitor. Ask questions, and give the patient some control or some choices during the process of the massage in order to establish some control for them.

Also during treatment, the client’s goals may change from the original goal due to the work offered. One of the participants said, “...it’s a matter of shifting goals because your client’s goals just changed.”

*Sub-theme: Reassessment and Reevaluation*

Reassessment and reevaluation is a vital part of massage therapy practice. The purpose of reassessment, according to the participants, is to help monitor a client’s progress. One participant said, “The client, as they’re progressing through their treatment, I'm reminding them where they were when they came in. Because people only know the pain that they have at that moment.”

Reassessment is used to gather information after treatment to monitor change in previously asked questions. Answers to these questions guide reevaluation to monitor the effectiveness of treatment, guide health messages, and potentially change plans of care or refer to other practitioners. One participant declared:

...if someone doesn't show any difference in three or four weeks, then, I'm not the right therapist for them. And maybe I'm not the right therapist for them, or it may be that this is not the right therapy for them, or it may be that they need a diagnosis, a medical diagnosis.
The experts indicated the timing of post-treatment reassessment varies. The reassessment may come directly after the session or it may come a few days later depending on the nature of the reassessment. If clients were complaining about trouble sleeping from stress related issues, then it would be impossible to reassess sleep quality directly after the massage. One male participant stated, “It’s best practices to reassess your client on a regular basis. Maybe not even specify the time.”

Sub-theme: Health messages

As noted in the previous paper, the non-hands-on portion of massage therapy of providing appropriate health messages, exists but is rarely acknowledged.40 These messages given to clients can potentially improve outcomes from treatment and include information on body awareness, exercise, and stress management to name a few. These messages may come before, during, or after treatment. One participant stated:

*But the key is that what we do is we teach our clients how to, or I hope what we do is more than just squeeze your shoulders, right? We’re actually engaging. We’re saying, “Do you feel that? Wow! That’s really, relative to my experience as a therapist, that’s a high degree of tension in your shoulders. How about you just take a deep breath, and see if you can soften that.” We’re teaching our client self-awareness and self-regulation. It’s one of the first byproducts of receiving a massage is just, “Wow! I didn’t know my body felt the way it did in this particular moment.”*

Sub-theme: Documentation

The experts indicated charting is necessary for all sessions. One participant said “...the idea of making it an expectation and a responsibility of people to chart...”
Additionally, the participants felt that documentation and charting is a best practice to track change with a client over time. One participant said, “*What you need is a system for improving the quality of what you do, and how you document, and that will eventually help you to make decisions, better decisions about care.*”

**Sub-theme: Closure**

Participants suggested that closure at the end of a massage therapy session could help client’s transition from the therapy setting. As one participant noted:

> **MALE:** I'm thinking about, taking thirty seconds out at the end of a treatment to reinforce something that they experienced on the table. Or if they noticed a breathing change on the table, then, introducing it again, for a period of one or two minutes at the end of a session. So that they can take it away. And, I think a lot of people do it.

**Theme 3: Influencing Factors**

The participants reported additional factors, which can influence the massage therapy process. The two sub-themes that were identified were scope of practice and professional standards and ethics.

**Sub-theme: Scope of Practice**

The participants were very knowledgeable and concerned about the potential views put forward by the group may not be applicable for all due to differences in scopes of practice within the profession. One participant stated, “*It depends on what you're trained to do. As well as, one of the particular stated defined scope of practice might be.*”

**Sub-theme: Professional Standards and Ethics**
Finally, the participants indicated the importance of professional standards and ethics to enhance professionalism.

As in any other profession, you have your responsibilities. And if you are in a profession then, there are certain things that the professional body has to ensure happens. And, when you get into that profession, you agree that you will respect what a professional body says. That's what all professions do. Here of course, there is creativity, but there are certain norms, as we need to follow, and that's also part of the education. So, if it is a respectable profession, and you are learning, and you agree to be certified through this professional body then, these are the norms.

Discussion

**Massage Therapy Practice Process Framework**

A created conceptual model helps visualize the concepts and processes identified by the participants (Figure 4.3). This practice framework can be applied to one massage therapy session or a series of sessions and is intended to be flexible and adaptive. This model builds upon the previously mentioned four-phase model, with additional elements added to the process. The framework is client centered and moves through assessment and evaluation, plan of care, treatment, reassessment and reevaluation, health messages, document/charting, and closure. The process is influenced by scope of practice and professional standards and ethics.
Figure 4.3 Process for Massage Therapy Practice

Client Centered

As the participants noted, massage therapy practice should be client centered. In the literature, many models for this type of care have been identified. The main themes within those models are the partnerships between provider and client are important; clients’ goals, values, wants, and needs are addressed and reflected within their treatment. Furthermore, clients receive education to help them participate in the decision making process.\textsuperscript{58–64} As the experts stated, their description of client centered agrees with the literature and they believe clients should be included within the treatment decisions and goal setting.

Massage Therapy Assessment and Evaluation

The process begins with assessment. As previously noted, other health professionals rely on assessments and evaluation to help plan treatment and improve the
health and well-being of their clients.\textsuperscript{46,65–67} It is vital that massage therapists follow suit when working with the public.

The creation of a conceptual model for assessment and evaluation assists understanding and operationalizes the themes and discussion from the participants and is seen in Figure 4.4.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{Figure44.png}
\caption{Massage Therapy Assessment and Evaluation}
\end{figure}

The figure shows the process identified by the participants for assessment. According to the participants a thorough health history begins the assessment; this includes repeat clients, e.g. inquiring how health history has changed since the last session. The next step is to investigate the client’s goal(s) for the session(s). The potential goals were centered on pain, stress, function, and well-being. Each goal has a series of assessment questions or therapists may decide to use a validated instrument. In an effort to aid researchers and therapists, potential validated instruments are identified within each
section to aid researchers and/or clinicians; however, therapists should investigate if the
instruments are relevant for clinical practice or intended for research only. Research tools
are not always intended for making decisions about individuals.

Pain Assessment

Questions related to reducing pain include having the client rate their pain or by
having other assessment instruments used to measure subjective pain levels. Potential
validated instruments include Visual Analogue Scale both vertical and horizontal, the
Verbal Descriptor Scale, the oral Numeric Rating Scale, McGill Pain Questionnaire-Short
Form (MPQ-SF), and Brief Pain Inventory-Short Form (BPI-SF) could be used in
massage therapy assessment.68,69 The next question inquires about the location of the pain
in the body following with the type of pain. Finally the therapist asks about the effects of
the pain, what work, activities, and/or movements that are hindered by the pain.

Stress Assessment

Questions related to stress are similar to those related to pain in asking the client
to rate their stress either on a simple 0 to 10 scale or with a valid and reliable scale for
stress. Possible stress scales include the Stress Overload Scale and Perceived Stress Scale
(either the 4 item or the 10 item scale).70–72 The participants indicated that sleep seems
particularly influenced by stress and the scientific literature does back up this claim by
the participants;73–75 it seems important to rate sleep quality. Again this can be
accomplished by simply asking the client to rate their sleep or a validated sleep scale can
be used. Validated sleep scales include the Pittsburgh Sleep Quality Index, the Epworth
Sleepiness Scale, Glasgow Sleep Impact Index, Sleep Hygiene Index, and Sleep
Disturbance Scale.76–78 As the participants stated, it seems important to ask how the stress
is felt in the body. Do the clients have headaches, tight neck and shoulders, or lower back pain? These questions can help guide the treatment options and may help to facilitate change.

*Function Assessment*

To help get a better idea how function is impaired, therapists should ask the client to rate their level of restriction and what activities are affected by the impairment. As the participants indicated, valid and reliable function scales may also be used. Some scales can be used specifically for certain impairments. Function assessment scales include Upper Extremity Functional Index, Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), Evaluation of Daily Activity Questionnaire (EDAQ), Patient-Specific Functional Scale (PSFS), Medical Outcomes Study Short Form-36 (SF-36), or other valid and reliable scales of their choosing.\(^{70–83}\) It should be noted that the SF-36 is also used as a quality of life scale that looks at many dimensions of health including function.

*Well-being Assessment*

The final potential goal is well-being. This category is for clients who have no particular goal for the session, simply enjoy massage, and/or they feel it enhances their life and helps to maintain good health. It is still important to have them rate their current health to monitor changes over time. As the participants indicated, to help with this assessment, it may be important to consider quality of life (QOL) scales; these scales include but are not limited to Quality of Life Scale (QOLS), World Health Organization Quality of Life-Brief (WHOQOL-BREF), EQ-5D, Self-Assessment of Change (SAC), and/or the SF-36.\(^{84–89}\)
Additional Assessments

As indicated by the participants, they did not want limitations in their potential ways to assess clients. Other methods of assessment, range of motion, orthopedic assessment, posture assessments and similar are recommended guiding treatment. These assessments are based on the therapist’s education and experience and within their scope of practice.

As the participants indicated, follow-up to all these categories is to ask questions to investigate what may be contributing to the potential problems. These contributing factors may give the therapist insight into treatment as well as the health messages and client “homework” to assign to help improve outcomes.40

Evaluation

The evaluation process helps in clinical decision-making and treatment planning. After the assessments, the therapists make judgments; these judgments guide care planning and treatment. Evaluation in other clinical practice fields is described in a similarly. Athletic training, physical therapy, and occupational therapy fields describe using assessments, health histories, and physical examinations to assist in clinical decision making and creating plans of care.90–92

Plan of Care

Upon completion of the evaluation process, therapists then determine the best way to address the needs and goals of the client. Participants stated that practitioners need to consider the client’s goals, the best available evidence, and their own clinical experience when creating treatment plans. This description meets the definition for evidence-based practice in the field of massage therapy as well as other health professions.9,44,54,93–96
Treatment

Treatment here is simply a term for the hands-on portion of massage therapy; the planned and patterned soft-tissue manipulation. As mentioned by the participants, therapists continue to assess and evaluate while treating clients and change treatment based on findings. The aspect of assessing while treating is not new to clinical practice; but it is rarely discussed within the scientific literature. However, Keller et. al mention in their study, treatment adaptions occurred based on assessment and the feedback from the client during the session. During treatment, therapists need to be mindful of the possibility for the client’s goals to change mid-treatment.

Reassessment and Reevaluation

The reassessment can be performed directly after treatment, but the addressing some questions require delayed follow-up. It sometimes takes time for to see treatment results; for example, if asking about sleep quality after massage it is important to wait until after the client has had an opportunity to have a complete night’s rest. Reevaluation is intended to judge the changes detected after treatment to help guide ongoing treatment plans. All reassessment questions or scales would mirror the assessment measures; however, it is important for the therapist to document if the original goal changed during treatment.

Health Messages

Health messages given to clients are an important part of massage therapy. Some therapists refer to this as giving “homework” to their clients to help maintain or improve outcomes from treatment sessions. These messages may be incorporated into practice at different stages, they may come during assessment when asking questions
about contributing factors, the messages may come during treatment, and/or the messages may come once treatment is completed. It is important for therapists to make sure they are giving clear, correct information, and stay within scope of practice.

**Documentation**

Documentation, like health messaging, may also occur at different stages of the framework. Charting may happen during assessment and evaluation as well as after reassessment and reevaluation. The experts indicated that charting is necessary for all sessions. Tracking a client over time is considered optimal. How the documentation occurs was not identified and therapists need to find ways that work best within their practice. As the participants stated, documenting may help improve treatment and client outcomes over time. Other health professions have indicated the importance of clinical notes in the effort to improve care and outcomes.  

**Closure**

The final step in the process is the concept of closure. This concept appears similar to previous noted frameworks concept of discharge. This sense of closure occurs at the end of a session, but may also occur at the end of several sessions. In the other fields with therapeutic practices, great importance is placed on the concept of discharge or closure of a session. This formalized ending, to a session or therapy as a whole, helps clients detach and move along in their day and their life. Other forms of therapy discuss the need for creating closure with clients and the need to educate clinical practice students on the appropriate way to close a session and end a therapeutic relationship.
**Influences on Practice**

As the participants suggested, scope of practice and professional standards and ethics have an influence on how massage therapy is practiced. Most states now have some form of regulation for massage therapy. These states differ widely on the requirements to gain certification and/or licensure. Additionally, scopes of practice for each state may also vary. The American Massage Therapy Association government relations team has indicated “must haves” and “should haves” for laws that govern massage therapy practice;\(^{108}\) however, it is not known how many states include these suggestions. These regulations impact the way a massage therapist can practice massage therapy in a given state.

Furthermore, professional standards and ethics impact practice for the massage therapy profession. Standards of practice and codes of ethics identified by the different professional organizations guide the profession. These standards and ethics range from “do no harm” to evidence based practice instruction.\(^{109–113}\)

Professional standards and ethics are additional macro-level influences that have potentially substantial consequences on massage therapy practice.\(^{40}\) For example, acting outside ones scope of practice and/or professional standards and violations of ethical practice may result in loss of license, litigation, and criminal arrest.

**Definition**

With structure for practice described, this allows for a definition to also be identified for massage therapy practice. This definition can be stated as:

*Massage therapy practice is a client-centered framework for providing massage therapy through a process of assessment and evaluation, plan of care, treatment,*
reassessment and reevaluation, health messages, document, and closure in an effort to improve health and/or well-being. Massage therapy practice is influenced by scope of practice and professional standards and ethics.

Challenges for implementation

Challenges for implementing the practice framework exist. In particular, all therapists need to be cognizant of their scopes of practice within their state and if they cannot use these suggested procedures within their state then they have options. They can simply practice within their scope, or they can use the results from this study to change the scope of practice within their state through government relations and policy changes. Additionally, therapists’ education level is of importance, in particular in the aspect of health messaging to clients. Currently, massage therapists may not have adequate education to provide accurate, reliable, and helpful health messages. Massage therapists are currently engaging in these health messages within practice according to research; however, it is not clear the totality of the messages that are given. To provide correct and accurate information, continuing education may be needed for therapists.

Limitations

This study does have limitations. The participants at the symposium were very experienced in clinical practice, education, and/or research and that may have led to biases in the assumptions. Additionally, the participants did not fully examine the issues of stress and low back pain, the original purpose of the symposium, and the discussions progressed more towards foundational documents needed for the massage therapy profession.

Conclusions
The goal for providing these frameworks is to give massage therapists tools to help deliver the best possible care for their clients. The frameworks are intended to be flexible and adaptive and may work in many different situations from a clinical healthcare environment (e.g. hospital setting) to spa environments. The framework for assessment potentially may be adapted to an electronic medical record format. The models need testing to see if they help advance practice, research, and education in the field of massage therapy.

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CHAPTER 5

DISCUSSION

Summary of Major Findings

The overall aim of this study was to better understand how experts in the field of massage therapy describe massage and massage therapy practice by using a grounded theory approach to inductively examine the discussions held between the participants from the Best Practices Committee (BPC) symposium. The symposium held in conjunction with the Massage Therapy Foundation’s (MTF) Highlighting Massage Therapy in Complementary and Integrative Medicine Research conference in May of 2010. Two specific aims guided this study; one regarding understanding the distinctions between massage and massage therapy as well as the context for massage therapy practice, and the other looking at massage therapy practice in depth to examine the process involved in practice.

Specific aim 1: To examine how experts in the profession define and describe massage and massage therapy and frame the practice of massage therapy.

Results for this specific aim are presented in manuscript one, Clarifying Definitions for the Profession: The Results for the Best Practices Symposium. Three overarching themes were identified: 1) definition of massage, 2) complexity of massage therapy, and 3) framing of massage therapy practice. As identified by the experts from
the symposium, clarification of the definitions for massage and massage therapy, as well as framing the context for massage therapy practice are needed. The results of this symposium indicate that the current definitions require clarification as the experts indicated confusion over how to define massage and the definition of massage therapy appears to be more complex than how it is currently defined.

The definitions are needed in part due to the common practice of using the terms “massage” and “massage therapy” interchangeably when, in fact, they appear to be two separate concepts. Symposium participants felt that massage is more than simply soft tissue manipulation as it is usually defined in the literature. Therefore, the definition offered for massage is:

Massage is a patterned and purposeful soft tissue manipulation accomplished by use of digits, hands, forearms, elbows, knees and/or feet with or without the use of emollients, liniments, heat and cold, hand-held tools or other external apparatus for the intent of therapeutic change.

Additionally, the participants noted, massage therapy seems more complex than simply the application of massage. Through their identification of additional elements of health messaging, therapeutic relationships and communication, therapist’s education, skill and experience, and the therapeutic setting, a definition of massage therapy was also created:

Massage therapy consists of the application of massage and non-hands-on components including health promotion and education messages for self-care and health maintenance; therapy as well as outcomes can be influenced by therapeutic
relationships and communication; the therapist’s education, skill level, and experience; and the therapeutic setting.

Finally, the participants indicated contextual elements that may impact massage therapy practice on different levels. Bronfenbrenner’s ecological framework considers multiple levels of contextual influence on human development; micro, meso, exo, and macrosystem levels. In this context, applying the results of the symposium to the model, micro, meso, and macro levels have been identified. The micro-level includes those practice elements that are client-focused. Meso-levels are therapist focused; this is the portion of practice that directly impacts the individual therapist on a personal level. Finally, the macro-level are system focused. The framing elements identified at the micro-level are safety and holistic practice, the meso-level involves therapist isolation, and the macro-level details the division within the profession between therapists who wish to rely on evidence based practice and those who do not.

These findings will add to the literature and will also offer clarity for the profession. These finding could advance the profession with regards to the American Massage Therapy Association (AMTA) strategic plan by helping advance organizational goals pertaining to professional competency, advocacy and influence, and government relations. Professional competency could be increased if these findings lead to the development of future education offerings for therapists to assist them in health promotion messages, therapeutic relationship building, and improving communication with clients to name a few. Using these findings in communication with other stakeholders in the healthcare and wellness industry may add to the accomplishment of the goal of advocacy and influence. By differentiating between massage and massage
therapy, future regulation could be created and supported by the industry including AMTA’s government relations division and the process for creating tiered licensure could commence. While it may seem like a leap to go from definitions to tiered licensure, upon investigating, the state of Maryland’s licensure laws currently incorporate a tiered licensure system. In Maryland, licensed massage therapists are required to have more education than registered massage practitioners (RMP). Additionally, RMPs may not practice in any healthcare setting, they can only in health clubs, spas, and private businesses. In the Maryland law, they appear to only differentiate by setting and education, it may be helpful include a differentiation by including the proposed definitions. A tiered licensure may also help the division within the profession; for example, massage therapy could be associated with healthcare and massage could be associated with the service industry. Although this would institutionalize the division within the profession, it may be acceptable to the profession as a whole and would need to be investigated. If this plan was not acceptable to the profession, it may be necessary to investigate a compromise to help bring the profession back to unity.

Specific aim 2: To examine how experts in the profession define and describe massage therapy practice?

Results for specific aim two were presented in the second manuscript, Process for Massage Therapy Practice and Essential Assessment. Three themes were identified around massage therapy practice: 1) client centered, 2) process for treatment, and 3) influencing factors on the process.

A process for practice is identified and this practice framework can be applied to
one massage therapy session or a series of sessions and is intended to be flexible and adaptive. The framework is client centered and moves through assessment and evaluation, plan of care, treatment, reassessment and reevaluation, health messages, document/charting, and closure. The process is influenced by scope of practice and professional standards and ethics.

As the participants noted, clients’ goals, values, wants, and needs are addressed and reflected within their treatment; and clients receive education to help them participate in the decision making process. The experts’ description of client centered is consistent with the literature; they believe clients should be included within the treatment decisions and goal setting.

The process begins with assessment. As previously noted, other health professionals rely on assessments and evaluation to help plan treatment and improve the health and well-being of their clients. It is vital that massage therapists follow suit when working with the public. Within the assessment, a client health history should be taken and the client’s goals for treatment should be considered. Four potential goals that clients may have were identified and those goals lead to additional assessment questions. Those goals include reduce pain, reduce stress, improve function, or well-being. Ways to assess these goals are discussed and valid and reliable instruments are also identified for therapists to incorporate into practice or research studies. Assessment may then continue with additional assessments from observations to range of motion to other orthopedic tests done within the therapists’ scope of practice, education and experience. Upon completion of assessments, the therapists make judgments, evaluate the information and use it to guide planning and treatment. Evaluation in other clinical
practice fields has been described in a similar fashion. This evaluation is used to assist in clinical decision making and creating treatment plans.168–170

When creating plans of care, practitioners need to consider the client’s goals, the best available evidence, and their own clinical experience. This description meets the definition for evidence-based practice in the field of massage therapy as well as other health professions.9,45,128,171–174

After the plan of care is created, treatment occurs; treatment in this sense is the hands-on portion of massage therapy. As indicated by the participants, therapists continue to assess and evaluate while treating clients and change treatment based on findings. During treatment, therapists should be mindful for the possibility of the client’s goals changing mid-treatment. After treatment, clients should be reassessed and reevaluated.

The next stage in the process is health messages, some therapists refer to this as giving “homework” to their clients to help maintain or improve their outcomes from the treatment session. These messages may be incorporated into practice at different stages, they may come during assessment when asking questions about contributing factors, the messages may come during treatment, and/or the messages may come once treatment is completed. Documentation, like health messaging, may also occur at different stages of the framework; charting may happen during assessment and evaluation as well as after reassessment and reevaluation. As the participants indicated, documenting may help improve treatment and client outcomes over time. Other health professions have indicated the importance of clinical notes in the effort to improve care and outcomes.175–179

The final step in the process is closure; this concept appears to be similar to the
concept of discharge. This sense of closure occurs at the end of a session, but may also occur at the end of several sessions if a client’s goal has been achieved. In the other fields with therapeutic practices, the concept of discharge or closure of a session appears to be of great import. This formalized ending, to a session or to therapy as a whole, helps clients to detach from the therapy environment and reacclimatize to daily life.

Professional standards and ethics are additional macro-level influences that have potentially substantial consequences on massage therapy practice. For example, acting outside ones scope of practice and/or professional standards and violations of ethical practice may result in loss of license, litigation, and criminal arrest.

With structure for practice described, a definition for massage therapy practice can be stated as:

Massage therapy practice is a client-centered framework for providing massage therapy through a process of assessment and evaluation, plan of care, treatment, reassessment and reevaluation, health messages, document, and closure in an effort to improve health and/or well-being. Massage therapy practice is influenced by scope of practice and professional standards and ethics.

**Importance of Context**

The findings of this study not only offer clarity into the definitions of massage and massage therapy as well as the operations within practice but also point to the importance of the multi-level context. Little research has been done on the contextual influences in massage therapy but when considering other healthcare modalities context seems to be of great importance. A systematic review by Di Blasi and colleagues,
discusses the contextual relevance of the patient-practitioner relationships; these relationships can have significant impact on health outcomes for patients and massage therapists should take note. Additional research into therapeutic relationships in the massage setting is needed to understand the relationship’s impact on therapy outcomes.

Additionally, other levels of contextual elements need to be researched. For example, Brett and colleagues indicate that the therapeutic setting may impact outcomes of therapy and these influences should be investigated. The participants suggested that the therapeutic setting may not only impact how massage is practiced in that setting but it may also have influence on the outcomes of therapy. It has been theorized and explored that differing levels of context will have impacts on development and health outcomes so it is not surprising that contextual elements may also impact massage therapy and massage therapy practice.

Moreover, the macro-level contextual elements of the division within the industry, the scope of practice, and professional standards and ethics may have a significant impact on the profession as well as practice. The participants’ lack of consensus in which industry massage therapy belongs stipulates a need for further discussions about which industry massage and massage therapy actually fit, or if they do indeed fit within both.

Currently no research to date could be identified that discusses the contextual element of scope of practice on practice itself. However, when massage therapists work outside their scope of practice, professional grievance and/or legal ramifications can occur. With regard to professional standards and ethics, Chunco discusses the importance of massage therapists staying current on the recent research because one of the ethical
standards of practice is not to make false claims about the benefits of massage therapy.\textsuperscript{183} With some research showing that certain previous claims made about massage therapy are in fact not accurate; for example, it was believed and taught that massage helped to remove lactic acid from tissues after exercise. That supposition has since been refuted by several studies that have shown that massage has no effect on lactic acid removal.\textsuperscript{184,185} It is important for massage therapists and massage therapy educators to stay current on the state of the science.

**Public Health Significance**

In 2009, the Institute of Medicine (IOM) conducted a summit to discuss Integrative Medicine in the health of the public; at this summit, the IOM suggest that Complementary and Alternative Medicine (CAM) providers can help to increase patient adherence with conventional therapies.\textsuperscript{186} Research has also recognized CAM as a way to deliver preventative services and health promotion messages which primary care providers may not have time to deliver.\textsuperscript{2,187}

A 2003 study recognized that it was not feasible for primary care physicians to deliver all the recommended chronic disease management messages and prevention/health promotion services to patients in a given day.\textsuperscript{187} Conventional medical care is the mainstay for many to maintain their health; however, it is vital to help the public achieve health and wellness by investigating all avenues for advancing care for chronic conditions as well as preventative care. Massage therapists may be able to fill the need for additional resources for preventive services as well as health promotion. To achieve this, steps need to be taken to enable massage therapists to help fulfill these roles.
competently and assist in improving the health of the public.

Moreover, research has been conducted investigating CAM providers in health promotion; the health promotion activities that research focuses on includes chronic disease management, stress management, and health behavior change.\textsuperscript{2,7,46,188,189} One reason CAM providers may be particularly helpful in health promotion efforts is because those who seek CAM for wellness and prevention typically see those practitioners on multiple occasions, which may allow for more opportunities for health promotion messages and reinforcement of those messages.\textsuperscript{2} The National Center for Complementary and Integrative Health has indicated that those who seek CAM may have higher health-seeking behaviors and therefore may be more accepting of health promotion messages given by CAM practitioners.\textsuperscript{190} One study by researchers in Australia found that individuals who have used CAM modalities feel that they are regaining and maintaining control of their chronic conditions and their bodies.\textsuperscript{189}

This project has clarified that health promotion type messages are already being delivered within massage therapy. This raises the possibility that this role can be formalized, which has the potential to open up avenues for therapists, the profession, and public health. However, steps need to be taken to ensure that massage therapists are giving accurate information in the most constructive format. For this to occur, education requirements would need to be expanded to include at least health behavior change theories, motivational interviewing, and research behind the best recommendations for healthy diet and exercise.
Limitations and Challenges

This study does have its limitations. In particular, while the purpose of the symposium was to create best practices for massage therapy on stress and low back pain; the data gathered did not support these topics. Additionally, the participants themselves were very experienced may have had biases, which may have affected the discussion. To improve the credibility of the findings, the results were shared with the participants in a web-meeting format; however, only 9 of the original 31 participants or 29% chose to participate in the process. Those who did not participate may not have agreed with the conclusions drawn from the data.

Challenges for implementing the practice framework exist. In particular, all therapists need to be cognizant of their scopes of practice within their state and if they cannot utilize these suggested procedures within their state then they have options. They can simply practice within their scope, or they can use the results from this study to look to change the scope of practice within their state through government relations and policy changes. Professional organizations can also facilitate assisting with the process of changing scope of practice by advocating for therapists and the profession through governmental lobbying efforts. Additionally, therapists’ education level is of importance, in particular in the aspect of health messaging to clients. Currently, massage therapists may not have adequate education to be able to provide accurate, reliable, and helpful health messages. While massage therapists are currently engaging in these health messages within practice, it is not always clear what the content of the messages are. For therapists to provide correct and accurate information, continuing education may be needed.
Changes at the organization/systems level may help to resolve some of the challenges to implementing the framework and definitions. If scopes of practice, which are regulated by governmental agencies, incorporate the suggested framework and definitions into their laws for the safety of the public, massage therapists would comply. Likewise, if professional organizations and educators incorporated the definitions into policies and curriculums compliance by massage therapists would also be mandated. By complying, massage therapists may have to change certain aspects of practice; for example, if they were not currently documenting information from sessions this would need to be implemented at the individual therapist level. Education may be necessary to assist massage therapists in the best way to incorporate these changes into practice.

Conclusion

Foundational research into how experts in the profession understand and describe the field of massage therapy is limited. The analysis indicated a need for clarifying the definitions of massage and massage therapy, as well as describing the context for massage therapy practice. Understanding the differences in the terms massage and massage therapy could transform the profession from the areas of education, practice, research, policy and/or regulation. For example, massage therapists may need further education on areas of documentation, establishing therapeutic relationships, best ways to communicate and offer health promotion messages; additionally incorporating these changes into a practice setting may require massage therapist to reexamine their business and practice procedures. These aforementioned areas (documentation, establishing therapeutic relationships, best ways to communicate and offering health messages) would also need to be incorporated into initial education. Research may be significantly
impacted; it may be necessary for scientists to indicate if they are studying massage or massage therapy, for instance. The models and definitions do need to be tested to determine their validity; and the first step would be to study all the constructs (e.g. therapeutic setting, therapeutic relationships, etc.) within the context of massage therapy to see if they do have impact outcomes. Then, if the constructs are found to be valid, all constructs within the definition would need to be measured when scientists are investigating massage therapy. Policy at national organizations and regulation may be impacted if massage and massage therapy can be separated to help initiate tiered licensure at the state and potentially national levels.

As the experts themselves noted, massage therapy is complex and has many components that are not always recognized. Acknowledging factors that may impact practice invites the opportunity for discussions on multiple points including: how can massage therapists help their clients feel safe? How does the profession help to limit the isolation of the individual practitioner? What sort of messaging can the profession include to the public about the holistic nature of practice? Finally, in what industry does the profession truly belong?

The goal for providing these frameworks is to give massage therapists tools to help deliver the best possible care for their clients. The frameworks are intended to be flexible and adaptive and may work in many different situations from a clinical healthcare environment (e.g. hospital setting) to spa environments. There is also a potential for the framework for assessment to be adapted to an electronic medical record format. The models need to be tested to see if they can help advance practice, research, and education in the field of massage therapy.
While the goal of the BPC was to create condition specific best practice documents, the participants felt that a foundational document was needed. This work may be that start of that foundation in which future best practices can be built.


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This reference file was created as part of the work of the Massage Therapy Foundation's Best Practices Committee. It contains a core of articles forming a meta-context for massage guidelines in treating low back pain.


Abstract — BACKGROUND: Shortening of the iliotibial band (ITB) has been considered to be associated with low back pain (LBP). It is theorized that ITB tightness in individuals with LBP is a compensatory mechanism following hip abductor muscle weakness. However, no study has clinically examined this theory. The purpose of this study was to investigate the muscle imbalance of hip abductor muscle weakness and ITB tightness in subjects with LBP. METHODS: A total of 300 subjects with and without LBP between the ages of 20 and 60 participated in this cross-sectional study. Subjects were categorized in three groups: LBP with ITB tightness (n = 100), LBP without ITB tightness (n = 100) and no LBP (n = 100). Hip abductor muscle strength was measured in all subjects. RESULTS: Analysis of Covariance (ANCOVA) with the body mass index (BMI) as the covariate revealed significant difference in hip abductor strength between three groups (P < 0.001). Post hoc analysis showed no significant difference in hip abductor muscle strength between the LBP subjects with and without ITB tightness (P = 0.59). However, subjects with no LBP had significantly stronger hip abductor muscle strength compared to subjects with LBP with ITB tightness (P < 0.001) and those with LBP without ITB tightness (P < 0.001). CONCLUSION: The relationship between ITB tightness and hip abductor weakness in patients with LBP is not supported as assumed in theory. More clinical studies are needed to assess the theory of muscle imbalance of hip abductor weakness and ITB tightness in LBP.


Abstract — OBJECTIVE: This report presents selected estimates of complementary and alternative medicine (CAM) use among U.S. adults, using data from the 2002 National Health Interview Survey (NHIS), conducted by the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS). METHODS: Data for the U.S. civilian noninstitutionalized population were collected using computer-assisted
personal interviews (CAPI). This report is based on 31,044 interviews of adults age 18 years and over. Statistics shown in this report were age adjusted to the year 2000 U.S. standard population. RESULTS: Sixty-two percent of adults used some form of CAM therapy during the past 12 months when the definition of CAM therapy included prayer specifically for health reasons. When prayer specifically for health reasons was excluded from the definition, 36% of adults used some form of CAM therapy during the past 12 months. The 10 most commonly used CAM therapies during the past 12 months were use of prayer specifically for one's own health (43.0%), prayer by others for one's own health (24.4%), natural products (18.9%), deep breathing exercises (11.6%), participation in prayer group for one's own health (9.6%), meditation (7.6%), chiropractic care (7.5%), yoga (5.1%), massage (5.0%), and diet-based therapies (3.5%). Use of CAM varies by sex, race, geographic region, health insurance status, use of cigarettes or alcohol, and hospitalization. CAM was most often used to treat back pain or back problems, head or chest colds, neck pain or neck problems, joint pain or stiffness, and anxiety or depression. Adults age 18 years or over who used CAM were more likely to do so because they believed that CAM combined with conventional medical treatments would help (54.9%) and/or they thought it would be interesting to try (50.1%). Most adults who have ever used CAM have used it within the past 12 months, although there is variation by CAM therapy.


Abstract — OBJECTIVE: This report presents selected estimates of complementary and alternative medicine (CAM) use among U.S. adults and children, using data from the 2007 National Health Interview Survey (NHIS), conducted by the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS). Trends in adult use were assessed by comparing data from the 2007 and 2002 NHIS. METHODS: Estimates were derived from the Complementary and Alternative Medicine supplements and Core components of the 2007 and 2002 NHIS. Estimates were generated and comparisons conducted using the SUDAAN statistical package to account for the complex sample design. RESULTS: In 2007, almost 4 out of 10 adults had used CAM therapy in the past 12 months, with the most commonly used therapies being nonvitamin, nonmineral, natural products (17.7%) and deep breathing exercises (12.7%). American Indian or Alaska Native adults (50.3%) and white adults (43.1%) were more likely to use CAM than Asian adults (39.9%) or black adults (25.5%). Results from the 2007 NHIS found that approximately one in nine children (11.8%) used CAM therapy in the past 12 months, with the most commonly used therapies being nonvitamin, nonmineral, natural products (3.9%) and chiropractic or osteopathic manipulation (2.8%). Children whose parent used CAM were almost five times as likely (23.9%) to use CAM as children whose parent did not use CAM (5.1%). For both adults and children in 2007, when worry about cost delayed receipt of conventional care, individuals were more likely to use CAM than when the cost of conventional care was not a worry. Between 2002 and 2007 increased use was seen among adults for acupuncture, deep breathing exercises, massage
therapy, meditation, naturopathy, and yoga. CAM use for head or chest colds showed a marked decrease from 2002 to 2007 (9.5% to 2.0%).


**Abstract** — Occupational health nurses have the opportunity to work effectively with employees in the area of complementary and alternative health care. The above Sidebar summarizes important points related to the occupational health nurse's role in this rapidly growing aspect of health care delivery.


**Abstract** — Dossey (2001) says, "The nurse serves as a facilitator and helps assist the patient and his or her significant others to be in the best state for healing to take place. Nurses are in a unique position to be instruments of healing at all times." According to Fitch (1999), "A fundamental goal of nursing is to comfort." Complementary and alternative therapies offer many self care and comforting remedies help employees prevent disease and promote healing. Occupational health nurses have the ability to educate employees and offer guidance about CAM therapies; encourage self care management of minor complaints; and encourage employees, when appropriate, to seek health care. As employees' use of CAM continues to increase, occupational health nurses need to monitor use of CAM therapies among employees. Nurses should inform the employer, case managers, and insurance companies involved about the potential increase in CAM use to promote changes in the health care system and integrate conventional and CAM therapies as needed. Further research related to CAM therapies continues as the health care system warrants safe, effective, and cost effective ways to promote health and prevent or manage illness.


**Abstract** — OBJECTIVE: This study evaluated the effectiveness of massage therapy as a component in increasing range of motion (ROM), decreasing pain and assisting in healing of a client with low back pain (LBP) and sciatica symptoms. METHODS: The client presented with an insidious onset of LBP and pain that radiated into the right lower extremity (sciatica). The client had been experiencing this pain daily for the past 9 months. Frequency, duration, and intensity of symptoms were recorded in a daily diary beginning the day after the client's first visit with the massage therapist. Manual therapy was administered once a week; each session lasted 45 min and consisted of a structured
protocol directed mainly toward muscles of the lumbar spine, pelvis, thigh, and leg regions. RESULTS: The results of this study suggest that massage therapy was effective at reducing LBP intensity and increasing ROM for this particular client. LBP intensity was assessed at level one the first three assessment periods. The reduction in post-massage LBP intensity was maintained from week six until week 10 with the exception of week six (no change) and week seven (pain increase due to intense trigger point treatment). The client's activities of daily living (ADLs) steadily increased throughout the 10-week study. CONCLUSION: The distinct techniques and stretches used during the course of this study have the possibility of becoming useful, non-pharmacological interventions for reducing or eliminating pain and sciatica symptoms associated with low back pain.


Abstract — Shiatsu, a specific type of massage, was used as an intervention in this study of 66 individuals complaining of lower back pain. Each individual was measured on state/trait anxiety and pain level before and after four shiatsu treatments. Each subject was then called 2 days following each treatment and asked to quantify the level of pain. Both pain and anxiety decreased significantly over time. Extraneous variables such as gender, age, gender of therapist, length of history with lower back pain, and medications taken for lower back pain did not alter the significant results. These subjects would recommend shiatsu massage for others suffering from lower back pain and indicated the treatments decreased the major inconveniences they experienced with their lower back pain.


Abstract — ABSTRACT: BACKGROUND: The purpose of this report is to provide a succinct but comprehensive summary of the scientific evidence regarding the effectiveness of manual treatment for the management of a variety of musculoskeletal and non-musculoskeletal conditions. METHODS: The conclusions are based on the results of systematic reviews of randomized clinical trials (RCTs), widely accepted and primarily UK and United States evidence-based clinical guidelines, plus the results of all RCTs not yet included in the first three categories. The strength/quality of the evidence regarding effectiveness was based on an adapted version of the grading system developed by the US Preventive Services Task Force and a study risk of bias assessment tool for the recent RCTs. RESULTS: By September 2009, 26 categories of conditions were located containing RCT evidence for the use of manual therapy: 13 musculoskeletal conditions, four types of chronic headache and nine non-musculoskeletal conditions. We identified 49 recent relevant systematic reviews and 16 evidence-based clinical guidelines plus an
additional 46 RCTs not yet included in systematic reviews and guidelines. Additionally, brief references are made to other effective non-pharmacological, non-invasive physical treatments. CONCLUSIONS: Spinal manipulation/mobilization is effective in adults for: acute, subacute, and chronic low back pain; migraine and cervicogenic headache; cervicogenic dizziness; manipulation/mobilization is effective for several extremity joint conditions; and thoracic manipulation/mobilization is effective for acute/subacute neck pain. The evidence is inconclusive for cervical manipulation/mobilization alone for neck pain of any duration, and for manipulation/mobilization for mid back pain, sciatica, tension-type headache, coccydynia, temporomandibular joint disorders, fibromyalgia, premenstrual syndrome, and pneumonia in older adults. Spinal manipulation is not effective for asthma and dysmenorrhea when compared to sham manipulation, or for Stage 1 hypertension when added to an antihypertensive diet. In children, the evidence is inconclusive regarding the effectiveness for otitis media and enuresis, and it is not effective for infantile colic and asthma when compared to sham manipulation. Massage is effective in adults for chronic low back pain and chronic neck pain. The evidence is inconclusive for knee osteoarthritis, fibromyalgia, myofascial pain syndrome, migraine headache, and premenstrual syndrome. In children, the evidence is inconclusive for asthma and infantile colic.


Abstract — OBJECTIVE: The purpose of this study was to determine the amount and type of negative side-effects and positive (unexpected) effects experienced after a massage session. STUDY DESIGN: Cross-sectional. SETTING: Massage clinic at a health sciences university. SUBJECTS: Of the 100 new and returning massage therapy clients who agreed to participate, 91 completed all survey questions. Outcome measures: Telephone survey and medical chart review 2-7 days postmassage. RESULTS: Overall, 10% of the massage clients experienced some minor discomfort after the massage session; however, 23% experienced unexpected, nonmusculoskeletal positive side-effects. The majority of negative symptoms started less than 12 hours after the massage and lasted for 36 hours or less. The majority of positive benefits began immediately after massage and lasted more than 48 hours. No major side-effects occurred during this study. CONCLUSIONS: This the first known study to define the rate of side-effects after massage therapy treatment. These data are important for risk-benefit analyses of massage care. Larger studies are needed to verify these data and to assess effects of different massage types and durations.

**Abstract** — Motor control is a key component in injury prevention. Loss of motor control involves failure to control joints, commonly because of incoordination of the agonist-antagonist muscle co-activation. Three subsystems work together to maintain spinal stability: The central nervous subsystem (control), the osteoligamentous subsystem (passive), and the muscle subsystem (active). There is evidence that the effects of breathing pattern disorders, such as hyperventilation, result in a variety of negative psychological, biochemical, neurological and biomechanical influences and interferences, capable of modifying each of these three subsystems. Breathing pattern disorders (the extreme form of which is hyperventilation), automatically increase levels of anxiety and apprehension, which may be sufficient to alter motor control and to markedly influence balance control. Hyperventilation results in respiratory alkalosis, leading to reduced oxygenation of tissues (including the brain), smooth muscle constriction, heightened pain perception, speeding up of spinal reflexes, increased excitability of the corticospinal system, hyperirritability of motor and sensory axons, changes in serum calcium and magnesium levels, and encouragement of the development of myofascial trigger points — all or any of which, in one way or another, are capable of modifying normal motor control of skeletal musculature. Diaphragmatic and transversus abdominis tone are key features in provision of core stability, however it has been noted that reduction in the support offered to the spine, by the muscles of the torso, may occur if there is both a load challenge to the low back, combined with a breathing challenge. It has been demonstrated that, after approximately 60 seconds of hypercapnea, the postural (tonic) and phasic functions of both the diaphragm and transversus abdominis are reduced or absent. Smooth muscle cells, now known to be widely embedded in connective tissues (including spinal discs, and lumbar fascia) constrict during periods of respiratory alkalosis, with as yet undetermined effects on joint stability and fascial tone. Breathing rehabilitation offers the potential for reducing the negative influences resulting from breathing pattern disorders.


**Abstract** — BACKGROUND: Although back pain is considered one of the most frequent reasons why patients seek complementary and alternative medical (CAM) therapies little is known on the extent patients are actually using CAM for back pain. METHODS: This is a post hoc analysis of a longitudinal prospective cohort study embedded in a RCT. General practitioners (GPs) recruited consecutively adult patients presenting with LBP. Data on physical function, on subjective mood, and on utilization of health services was collected at the first consultation and at follow-up telephone interviews for a period of twelve months RESULTS: A total of 691 (51%) respectively 928 (69%) out of 1,342 patients received one form of CAM depending on the definition. Local heat, massage, and spinal manipulation were the forms of CAM most commonly offered. Using CAM was associated with specialist care, chronic LBP and treatment in a
rehabilitation facility. Receiving spinal manipulation, acupuncture or TENS was associated with consulting a GP providing these services. Apart from chronicity disease related factors like functional capacity or pain only showed weak or no association with receiving CAM. CONCLUSION: The frequent use of CAM for LBP demonstrates that CAM is popular in patients and doctors alike. The observed association with a treatment in a rehabilitation facility or with specialist consultations rather reflects professional preferences of the physicians than a clear medical indication. The observed dependence on providers and provider related services, as well as a significant proportion receiving CAM that did not meet the so far established selection criteria suggests some arbitrary use of CAM.


Abstract — BACKGROUND: Because the value of popular forms of alternative care for chronic back pain remains uncertain, we compared the effectiveness of acupuncture, therapeutic massage, and self-care education for persistent back pain. METHODS: We randomized 262 patients aged 20 to 70 years who had persistent back pain to receive Traditional Chinese Medical acupuncture (n = 94), therapeutic massage (n = 78), or self-care educational materials (n = 90). Up to 10 massage or acupuncture visits were permitted over 10 weeks. Symptoms (0-10 scale) and dysfunction (0-23 scale) were assessed by telephone interviewers masked to treatment group. Follow-up was available for 95% of patients after 4, 10, and 52 weeks, and none withdrew for adverse effects. RESULTS: Treatment groups were compared after adjustment for prerandomization covariates using an intent-to-treat analysis. At 10 weeks, massage was superior to self-care on the symptom scale (3.41 vs 4.71, respectively; P =.01) and the disability scale (5.88 vs 8.92, respectively; P<.001). Massage was also superior to acupuncture on the disability scale (5.89 vs 8.25, respectively; P =.01). After 1 year, massage was not better than self-care but was better than acupuncture (symptom scale: 3.08 vs 4.74, respectively; P =.002; dysfunction scale: 6.29 vs 8.21, respectively; P =.05). The massage group used the least medications (P<.05) and had the lowest costs of subsequent care. CONCLUSIONS: Therapeutic massage was effective for persistent low back pain, apparently providing long-lasting benefits. Traditional Chinese Medical acupuncture was relatively ineffective. Massage might be an effective alternative to conventional medical care for persistent back pain.


Abstract — Back pain is often as mystifying to doctors as it is to patients. Diagnostic tests rarely pinpoint the causes, and conventional treatments such as anti-inflammatory and muscle-relaxing drugs offer only limited relief. For that reason, many sufferers seek care from providers of complementary and alternative therapies, most often chiropractors,
massage therapists and acupuncturists. None of these approaches is a sure bet, but many individuals find one or more of them helpful.


**Abstract** — BACKGROUND: Few treatments for back pain are supported by strong scientific evidence. Conventional treatments, although widely used, have had limited success. Dissatisfied patients have, therefore, turned to complementary and alternative medical therapies and providers for care for back pain. PURPOSE: To provide a rigorous and balanced summary of the best available evidence about the effectiveness, safety, and costs of the most popular complementary and alternative medical therapies used to treat back pain. DATA SOURCES: MEDLINE, EMBASE, and the Cochrane Controlled Trials Register. STUDY SELECTION: Systematic reviews of randomized, controlled trials (RCTs) that were published since 1995 and that evaluated acupuncture, massage therapy, or spinal manipulation for nonspecific back pain and RCTs published since the reviews were conducted. DATA EXTRACTION: Two authors independently extracted data from the reviews (including number of RCTs, type of back pain, quality assessment, and conclusions) and original articles (including type of pain, comparison treatments, sample size, outcomes, follow-up intervals, loss to follow-up, and authors' conclusions). DATA SYNTHESIS: Because the quality of the 20 RCTs that evaluated acupuncture was generally poor, the effectiveness of acupuncture for treating acute or chronic back pain is unclear. The three RCTs that evaluated massage reported that this therapy is effective for subacute and chronic back pain. A meta-regression analysis of the results of 26 RCTs evaluating spinal manipulation for acute and chronic back pain reported that spinal manipulation was superior to sham therapies and therapies judged to have no evidence of a benefit but was not superior to effective conventional treatments. CONCLUSIONS: Initial studies have found massage to be effective for persistent back pain. Spinal manipulation has small clinical benefits that are equivalent to those of other commonly used therapies. The effectiveness of acupuncture remains unclear. All of these treatments seem to be relatively safe. Preliminary evidence suggests that massage, but not acupuncture or spinal manipulation, may reduce the costs of care after an initial course of therapy.


**Abstract** — ABSTRACT: BACKGROUND: Chronic back pain is a major public health problem and the primary reason patients seek massage treatment. Despite the growing use of massage for chronic low back pain, there have been few studies of its effectiveness. This trial will be the first evaluation of the effectiveness of relaxation massage for chronic back pain and the first large trial of a focused structural form of
massage for this condition. Methods and Design: A total of 399 participants (133 in each of three arms) between the ages of 20 and 65 years of age who have low back pain lasting at least 3 months will be recruited from an integrated health care delivery system. They will be randomized to one of two types of massage ("focused structural massage" or "relaxation massage"), or continued usual medical care. Ten massage treatments will be provided over 10 weeks. The primary outcomes, standard measures of dysfunction and bothersomeness of low back pain, will be assessed at baseline and after 10, 26, and 52 weeks by telephone interviewers masked to treatment assignment. General health status, satisfaction with back care, days of back-related disability, perceived stress, and use and costs of healthcare services for back pain will also be measured. Outcomes across assigned treatment groups will be compared using generalized estimating equations, accounting for participant correlation and adjusted for baseline value, age, and sex. For both primary outcome measures, this trial will have at least 85% power to detect the presence of a minimal clinically significant difference among the three treatment groups and 91% power for pairwise comparisons. Secondary analyses will compare the proportions of participants in each group that improve by a clinically meaningful amount. CONCLUSION: Results of this trial will help clarify the value of two types of massage therapy for chronic low back pain. Trial registration: Clinical Trials.gov NCT 00371384.


Abstract — BACKGROUND: Many nonpharmacologic therapies are available for treatment of low back pain. PURPOSE: To assess benefits and harms of acupuncture, back schools, psychological therapies, exercise therapy, functional restoration, interdisciplinary therapy, massage, physical therapies (interferential therapy, low-level laser therapy, lumbar supports, shortwave diathermy, superficial heat, traction, transcutaneous electrical nerve stimulation, and ultrasonography), spinal manipulation, and yoga for acute or chronic low back pain (with or without leg pain). DATA SOURCES: English-language studies were identified through searches of MEDLINE (through November 2006) and the Cochrane Database of Systematic Reviews (2006, Issue 4). These electronic searches were supplemented by hand searching of reference lists and additional citations suggested by experts. STUDY SELECTION: Systematic reviews and randomized trials of 1 or more of the preceding therapies for acute or chronic low back pain (with or without leg pain) that reported pain outcomes, back-specific function, general health status, work disability, or patient satisfaction. DATA EXTRACTION: We abstracted information about study design, population characteristics, interventions, outcomes, and adverse events. To grade methodological quality, we used the Oxman criteria for systematic reviews and the Cochrane Back Review Group criteria for individual trials. DATA SYNTHESIS: We found good evidence that cognitive-behavioral therapy, exercise, spinal manipulation, and interdisciplinary rehabilitation are all moderately effective for chronic or subacute (>4 weeks’ duration) low back pain. Benefits over placebo, sham therapy, or no treatment
averaged 10 to 20 points on a 100-point visual analogue pain scale, 2 to 4 points on the Roland-Morris Disability Questionnaire, or a standardized mean difference of 0.5 to 0.8. We found fair evidence that acupuncture, massage, yoga (Viniyoga), and functional restoration are also effective for chronic low back pain. For acute low back pain (<4 weeks' duration), the only nonpharmacologic therapies with evidence of efficacy are superficial heat (good evidence for moderate benefits) and spinal manipulation (fair evidence for small to moderate benefits). Although serious harms seemed to be rare, data on harms were poorly reported. No trials addressed optimal sequencing of therapies, and methods for tailoring therapy to individual patients are still in early stages of development. Evidence is insufficient to evaluate the efficacy of therapies for sciatica.

LIMITATIONS: Our primary source of data was systematic reviews. We included non-English-language trials only if they were included in English-language systematic reviews. CONCLUSIONS: Therapies with good evidence of moderate efficacy for chronic or subacute low back pain are cognitive-behavioral therapy, exercise, spinal manipulation, and interdisciplinary rehabilitation. For acute low back pain, the only therapy with good evidence of efficacy is superficial heat.


**Abstract** — It is not uncommon for physical therapists to report difficulty in treating certain subjects with chronic idiopathic low back pain. The purpose of this case study is to present a three-paradigm model of intervention that may be adapted to the treatment of such cases. The model consists of: 1) relaxation paradigm, consisting of pain modulation procedures; 2) corrective paradigm, involving manual techniques and exercise to correct specific faulty biomechanical alignment(s) eg., pelvic asymmetry); and 3) integrative paradigm, utilizing guided movement/mobilization techniques for improving the subject's overall pattern of posture and movement. The case study of a young adult with chronic low back pain correlated with unilateral innominate bone rotation is presented to illustrate the three-paradigm approach. Over six sessions, the subject received a corrective (sessions 1-3) and an integrative treatment protocol (sessions 4-6) consisting of Rolf's method of soft tissue mobilization and Alexander's system of guided movement-awareness techniques. Before and after each session and after a 4-week follow-up, the subject was assessed for sacroiliac joint pain using a compression technique, anterior rotation of the innominate bones, pelvic angle in the standing position, and vagal tone as determined from heart rate variability. The therapist's visual analysis of sit-to-stand movement and the subject's self-reports of pain were noted. A corrective paradigm protocol of soft tissue mobilization and exercise was unsuccessful in eliminating the subject's assessed anterior rotation of the innominate bone and associated low back pain.
for more than 1-2 days posttreatment. Only after the implementation of a third paradigm movement/mobilization protocol did the subject begin to exhibit sustained improvement through a 4-week follow-up. Interpretations of the results, appropriate selection of corrective and integrative protocols, and physiological mechanisms are discussed.


Abstract — The effectiveness of massage therapy for the orthopaedic patient has not been documented; thus, a review of the published literature was warranted. A considerable proportion of the population experience orthopaedic problems, and many use massage therapy. A review and analysis of the literature between January 1973 and June 2003 yielded tentative results. It appears that massage therapy may be effective for orthopaedic patients with low back problems and potentially beneficial for patients with other orthopaedic problems. Massage therapy appears to be safe, to have high patient satisfaction, and to reduce pain and dysfunction.


Abstract — An increasing dependence of society on automobiles for both work and leisure and the corresponding increase in time spent seated in the car has been correlated with a greater risk of low back pain and absence from work (Porter and Gyi 2002). This study examined the effects of three types of lumbar massage units on seating comfort, muscle fatigue, muscle oxygenation, muscle blood flow and driving performance during a 1 h simulated driving task. Electromyographic (EMG) signals were recorded from the right and left thoracic and lumbar erector spinae musculature. Average EMG (AEMG), mean power frequency (MPF), gaps and amplitude probability distribution function (APDF) parameters were analysed from the three massage seats and compared to a control seat. Near infrared spectroscopy (NIRS) and skin temperature from the right thoracic and lumbar erector spinae were used as an indication of muscle oxygenation and blood flow throughout the driving task. Ratings of perceived discomfort were used to assess driver discomfort, and driving performance was assessed by calculating mean lap times for the duration of each driving trial. The results showed statistically significant increases in skin temperature compared with the control seat after 60 min of driving. The NIRS results reflected these trends although the results were not statistically significant. AEMG and MPF measures showed no significant differences between the seats. MPF measures were found to increase over time, effects attributed to increases in muscle temperature. Gaps and APDF analyses revealed greater rest times and lower activation levels, respectively, with the control seat, which could result in increased loading of passive structures. This study demonstrated the beneficial effects of lumbar massage
systems in increasing muscle blood flow and oxygenation. Although EMG parameters were not significantly different, the trends support the significant blood flow results. Future research should include longer driving times and adjustments in EMG measures to account for the effects of increasing muscle temperature on AEMG and MPF measures.


**Abstract** — STUDY DESIGN: A randomized controlled trial. OBJECTIVE: To investigate the effectiveness and cost of usual care plus patient choice of acupuncture, chiropractic, or massage therapy (choice) compared with usual care alone in patients with acute low back pain (LBP). SUMMARY OF BACKGROUND DATA: Few studies have evaluated care models with facilitated access to and financial coverage for adjunctive complementary and alternative medicine therapies. METHODS: A total of 444 patients with acute LBP (<21 days) were recruited from 4 clinical sites and randomized into 2 groups: usual care or choice. Outcomes included symptoms (bothersomeness), functional status (Roland), and satisfaction between baseline and 5 weeks, and cost of medical care in the 12 weeks after randomization. RESULTS: After 5 weeks, providing patients with a choice did not yield clinically important reductions in symptoms (median -4, [interquartile range -7, -2] for usual care, and -5 [-7, -3] for choice; P = 0.002) or improvements in functional status (-8 [-13, -2] for usual care, and -9 [-15, -4] for choice; P = 0.15). Although there was a significantly greater satisfaction with care in the choice group, this came at a net increase in costs of 244 dollars per patient. This consisted of a 99 dollars reduction in the average cost to the insurer for medical care but an additional cost of 343 dollars, for an average of 6.0 complementary and alternative medicine treatments per patient. CONCLUSIONS: A model of care that offered access to a choice of complementary and alternative medicine therapies for acute LBP did not result in clinically significant improvements in symptom relief or functional restoration. This model was associated with greater patient satisfaction but increased total costs. Future evaluations of this choice model should focus on patients with chronic conditions (including chronic back pain) for which conventional medical care is often costly and of limited benefit.


**Abstract** — Massage therapy is frequently employed for low back pain (LBP). The aim of this systematic review was to find the evidence for or against its efficacy in this indication. Four randomized clinical trials were located in which massage was tested as a monotherapy for LBP. All were burdened with major methodological flaws. One of these studies suggests that massage is superior to no treatment. Two trials imply that it is
equally effective as spinal manipulation or transcutaneous electrical stimulation (TES). One study suggests that it is less effective than spinal manipulation. It is concluded that too few trials of massage therapy exist for a reliable evaluation of its efficacy. Massage seems to have some potential as a therapy for LBP. More investigations of this subject are urgently needed.


Abstract — OBJECTIVES: To evaluate the effectiveness of chiropractic and massage therapy for the reduction of any type of pain. METHODS: Systematic reviews of chiropractic and massage as a means of pain control were located and evaluated. RESULTS: Six systematic reviews were found, 4 of chiropractic and 2 of massage therapy. Promising evidence emerged from some of these reviews but neither for chiropractic nor for massage was there fully convincing evidence for effectiveness in controlling musculoskeletal or other pain. DISCUSSION: The notion that chiropractic or massage are effective interventions for pain control has not been demonstrated convincingly through rigorous clinical trials.


Abstract — A randomized between-groups design was used to evaluate massage therapy versus relaxation therapy effects on chronic low back pain. Treatment effects were evaluated for reducing pain, depression, anxiety and sleep disturbances, for improving trunk range of motion (ROM) and for reducing job absenteeism and increasing job productivity. Thirty adults (M age=41 years) with low back pain with a duration of at least 6 months participated in the study. The groups did not differ on age, socioeconomic status, ethnicity or gender. Sessions were 30min long twice a week for 5 weeks. On the first and last day of the 5-week study participants completed questionnaires and were assessed for ROM. By the end of the study, the massage therapy group, as compared to the relaxation group, reported experiencing less pain, depression, anxiety and sleep disturbance. They also showed improved trunk and pain flexion performance.

Abstract — BACKGROUND: Low back pain (LBP) is one of the most common and costly musculoskeletal problems in modern society. Proponents of massage therapy claim it can minimize pain and disability and speed return-to-normal function. OBJECTIVES: To assess the effects of massage therapy for nonspecific LBP. SEARCH STRATEGY: We searched MEDLINE, Embase, Cochrane Controlled Trials Register, HealthSTAR, CINAHL, and dissertation abstracts through May 2001 with no language restrictions. References in the included studies and in reviews of the literature were screened. Contact with content experts and massage associations was also made. SELECTION CRITERIA: The studies had to be randomized or quasirandomized trials investigating the use of any type of massage (using the hands or a mechanical device) as a treatment for nonspecific LBP. DATA COLLECTION AND ANALYSIS: Two reviewers blinded to authors, journals, and institutions selected the studies, assessed the methodologic quality using the criteria recommended by the Cochrane Collaboration Back Review Group, and extracted the data using standardized forms. The studies were analyzed in a qualitative way because of heterogeneity of population, massage technique, comparison groups, timing, and type of outcome measured. RESULTS: Nine publications reporting on eight randomized trials were included. Three had low and five had high methodologic quality scores. One study was published in German, and the rest, in English. Massage was compared with an inert treatment (sham laser) in one study that showed that massage was superior, especially if given in combination with exercises and education. In the other seven studies, massage was compared with different active treatments. They showed that massage was inferior to manipulation and transcutaneous electrical nerve stimulation; massage was equal to corsets and exercises; and massage was superior to relaxation therapy, acupuncture, and self-care education. The beneficial effects of massage in patients with chronic LBP lasted at least 1 year after the end of the treatment. One study comparing two different techniques of massage concluded in favor of acupuncture massage over classic (Swedish) massage. CONCLUSIONS: Massage might be beneficial for patients with subacute and chronic nonspecific LBP, especially when combined with exercises and education. The evidence suggests that acupuncture massage is more effective than classic massage, but this needs confirmation. More studies are needed to confirm these conclusions, to assess the effect of massage on return-to-work, and to measure longer term effects to determine cost-effectiveness of massage as an intervention for LBP.

Abstract — BACKGROUND: Low back pain is one of the most common and costly musculoskeletal problems in modern society. Proponents of massage therapy claim it can
minimize pain and disability, and speed return to normal function. OBJECTIVES: To assess the effects of massage therapy for non-specific low-back pain. SEARCH STRATEGY: We searched Medline, Embase, Cochrane Controlled Trials Register, HealthSTAR, CINAHL and Dissertation abstracts from their beginning to May 2008 with no language restrictions. References in the included studies and in reviews of the literature were screened. Contact with content experts and massage associations was also made. SELECTION CRITERIA: The studies had to be randomized or quasi-randomized trials investigating the use of any type of massage (using the hands or a mechanical device) as a treatment for non-specific low-back pain. DATA COLLECTION AND ANALYSIS: Two reviewers blinded to authors, journal and institutions selected the studies, assessed the methodological quality using the criteria recommended by the Cochrane Back Review Group, and extracted the data using standardized forms. The studies were analysed in a qualitative way due to heterogeneity of population, massage technique, comparison groups, timing and type of outcome measured. MAIN RESULTS: Nine publications reporting on eight randomized trials were included. Three had low and five had high methodological quality scores. One study was published in German and the rest in English. Massage was compared to an inert treatment (sham laser) in one study that showed that massage was superior, especially if given in combination with exercises and education. In the other seven studies, massage was compared to different active treatments. They showed that massage was inferior to manipulation and TENS; massage was equal to corsets and exercises; and massage was superior to relaxation therapy, acupuncture and self-care education. The beneficial effects of massage in patients with chronic low-back pain lasted at least one year after the end of the treatment. One study comparing two different techniques of massage concluded in favour of acupuncture massage over classic (Swedish) massage. REVIEWER’S CONCLUSIONS: Massage might be beneficial for patients with subacute and chronic non-specific low-back pain, especially when combined with exercises and education. The evidence suggest that acupuncture massage is more effective than classic massage, but this need confirmation. More studies are needed to confirm these conclusions and to assess the impact of massage on return-to-work, and to measure longer term effects to determine cost-effectiveness of massage as an intervention for low-back pain.

doi: 10.1002/14651858.CD001929.pub2, issn: 1469-493X.

Abstract — BACKGROUND: Low-back pain is one of the most common and costly musculoskeletal problems in modern society. Proponents of massage therapy claim it can minimize pain and disability, and speed return to normal function. OBJECTIVES: To assess the effects of massage therapy for non-specific low-back pain. SEARCH STRATEGY: We searched MEDLINE, EMBASE, CINAHL from their beginning to May 2008. We also searched the Cochrane Central Register of Controlled Trials (The Cochrane Library 2006, issue 3), HealthSTAR and Dissertation abstracts up to 2006. There were no language restrictions. References in the included studies and in reviews of the literature were screened. SELECTION CRITERIA: The studies had to be randomized
or quasi-randomized trials investigating the use of any type of massage (using the hands or a mechanical device) as a treatment for non-specific low-back pain. DATA COLLECTION AND ANALYSIS: Two review authors selected the studies, assessed the risk of bias using the criteria recommended by the Cochrane Back Review Group, and extracted the data using standardized forms. Both qualitative and meta-analyses were performed. MAIN RESULTS: Thirteen randomized trials were included. Eight had a high risk and five had a low risk of bias. One study was published in German and the rest in English. Massage was compared to an inert therapy (sham treatment) in two studies that showed that massage was superior for pain and function on both short and long-term follow-ups. In eight studies, massage was compared to other active treatments. They showed that massage was similar to exercises, and massage was superior to joint mobilization, relaxation therapy, physical therapy, acupuncture and self-care education. One study showed that reflexology on the feet had no effect on pain and functioning. The beneficial effects of massage in patients with chronic low-back pain lasted at least one year after the end of the treatment. Two studies compared two different techniques of massage. One concluded that acupuncture massage produces better results than classic (Swedish) massage and another concluded that Thai massage produces similar results to classic (Swedish) massage. AUTHORS’ CONCLUSIONS: Massage might be beneficial for patients with subacute and chronic non-specific low-back pain, especially when combined with exercises and education. The evidence suggests that acupuncture massage is more effective than classic massage, but this need confirmation. More studies are needed to confirm these conclusions, to assess the impact of massage on return-to-work, and to determine cost-effectiveness of massage as an intervention for low-back pain.


**Abstract** — STUDY DESIGN: Systematic Review. OBJECTIVES: To assess the effects of massage therapy for nonspecific low back pain. SUMMARY OF BACKGROUND DATA: Low back pain is one of the most common and costly musculoskeletal problems in modern society. Proponents of massage therapy claim it can minimize pain and disability, and speed return to normal function. METHODS: We searched MEDLINE, EMBASE, CINAHL from their beginning to May 2008. We also searched the Cochrane Central Register of Controlled Trials (The Cochrane Library 2006, issue 3), HealthSTAR and Dissertation abstracts up to 2006. There were no language restrictions. References in the included studies and in reviews of the literature were screened. The studies had to be randomized or quasi-randomized trials investigating the use of any type of massage (using the hands or a mechanical device) as a treatment for nonspecific low back pain. Two review authors selected the studies, assessed the risk of bias using the criteria recommended by the Cochrane Back Review Group, and extracted the data using standardized forms. Both qualitative and meta-analyses were performed. RESULTS: Thirteen randomized trials were included. Eight had a high risk and 5 had a low risk of bias. One study was published in German and the rest in English. Massage was compared to an inert therapy (sham treatment) in 2 studies that showed that massage was superior
for pain and function on both short- and long-term follow-ups. In 8 studies, massage was compared to other active treatments. They showed that massage was similar to exercises, and massage was superior to joint mobilization, relaxation therapy, physical therapy, acupuncture, and self-care education. One study showed that reflexology on the feet had no effect on pain and functioning. The beneficial effects of massage in patients with chronic low back pain lasted at least 1 year after the end of the treatment. Two studies compared 2 different techniques of massage. One concluded that acupuncture massage produces better results than classic (Swedish) massage and another concluded that Thai massage produces similar results to classic (Swedish) massage. CONCLUSION: Massage might be beneficial for patients with subacute and chronic nonspecific low back pain, especially when combined with exercises and education. The evidence suggests that acupuncture massage is more effective than classic massage, but this needs confirmation. More studies are needed to confirm these conclusions, to assess the impact of massage on return-to-work, and to determine cost-effectiveness of massage as an intervention for low back pain.


Abstract — ABSTRACT: This is an accompanying commentary on the article by Gert Bronfort and colleagues about the effectiveness of manual therapy. The two commentaries were provided independently and combined into this single article by the journal editors.


Abstract — STUDY DESIGN: A randomized between-groups design evaluated massage therapy versus relaxation for chronic low back pain. OBJECTIVES: Treatment effects were evaluated for reducing pain, depression, anxiety and stress hormones, and sleeplessness and for improving trunk range of motion associated with chronic low back pain. SUMMARY of BACKGROUND DATA: Twenty-four adults (M age=39.6 years) with low back pain of nociceptive origin with a duration of at least 6 months participated in the study. The groups did not differ on age, socioeconomic status, ethnicity or gender. METHODS: Twenty-four adults (12 women) with lower back pain were randomly assigned to a massage therapy or a progressive muscle relaxation group. Sessions were 30 minutes long twice a week for five weeks. On the first and last day of the 5-week study participants completed questionnaires, provided a urine sample and were assessed for range of motion. RESULTS: By the end of the study, the massage therapy group, as compared to the relaxation group, reported experiencing less pain, depression, anxiety and improved sleep. They also showed improved trunk and pain flexion performance, and their serotonin and dopamine levels were higher. CONCLUSIONS: Massage therapy is
effective in reducing pain, stress hormones and symptoms associated with chronic low back pain. PRECIS: Adults (M age=39.6 years) with low back pain with a duration of at least 6 months received two 30-min massage or relaxation therapy sessions per week for 5 weeks. Participants receiving massage therapy reported experiencing less pain, depression, anxiety and their sleep had improved. They also showed improved trunk and pain flexion performance, and their serotonin and dopamine levels were higher.


Abstract — BACKGROUND: Although acupressure has been reported to be effective in managing various types of pain, its efficacy in relieving pain associated with low back pain (LBP) remains unclear. The aim of this study is to compare the efficacy of acupressure with that of physical therapy in reducing low back pain. METHODS: A randomized controlled clinical trial in an orthopedic referral hospital in Taiwan was conducted between December 20, 2000, and March 2, 2001. A total of 146 participants with chronic low back pain were randomly assigned to the acupressure group (69) or the physical therapy group (77), each with a different treatment technique. Self-appraised pain scores were obtained before treatment as baseline and after treatment as outcomes using the Chinese version of Short-Form Pain Questionnaire (SF-PQ). RESULTS: There were no significant differences in baseline characteristics among patients randomized into the two groups. The mean of posttreatment pain score after a 4-week treatment (2.28, SD = 2.62) in the acupressure group was significantly lower than that in the physical therapy group (5.05, SD = 5.11) (P = 0.0002). At the 6-month follow-up assessment, the mean of pain score in the acupressure group (1.08, SD = 1.43) was still significantly lower than that in the physical therapy group (3.15, SD = 3.62) (P = 0.0004). CONCLUSIONS: Our results suggest that acupressure is another effective alternative medicine in reducing low back pain, although the standard operating procedures involved with acupressure treatment should be carefully assessed in the future.


Abstract — Low back pain is a common affliction with significant associated costs to the healthcare delivery system. The importance of back pain from a societal view is underscored by the number of individuals affected and the potential economic consequences for patients and employers alike. Myriad treatments for low back pain have been reported. The purpose of this paper is to review appropriate clinical management and nonoperative treatment of low back pain, consider traditional and non-traditional treatments about which patients may inquire, and emphasize evidence-based recommendations.
Abstract — The management of chronic low back pain (CLBP) has proven to be very challenging in North America, as evidenced by its mounting socioeconomic burden. Choosing amongst available nonsurgical therapies can be overwhelming for many stakeholders, including patients, health providers, policy makers, and third-party payers. Although all parties share a common goal and wish to use limited health-care resources to support interventions most likely to result in clinically meaningful improvements, there is often uncertainty about the most appropriate intervention for a particular patient. To help understand and evaluate the various commonly used nonsurgical approaches to CLBP, the North American Spine Society has sponsored this special focus issue of The Spine Journal, titled Evidence-informed management of chronic low back pain without surgery. Articles in this special focus issue were contributed by leading spine practitioners and researchers, who were invited to summarize the best available evidence for a particular intervention and encouraged to make this information accessible to nonexperts. Each of the articles contains five sections (description, theory, evidence of efficacy, harms, and summary) with common subheadings to facilitate comparison across the 24 different interventions profiled in this special focus issue, blending narrative and systematic review methodology as deemed appropriate by the authors. It is hoped that articles in this special focus issue will be informative and aid in decision making for the many stakeholders evaluating nonsurgical interventions for CLBP.

Abstract — BACKGROUND: Health care workers have a high prevalence of low back pain (LBP). Although physical exposures in the working environment are linked to an increased risk of LBP, it has been suggested that individual coping strategies, for example fear-avoidance beliefs, could also be important in the development and maintenance of LBP. Accordingly, the main objective of this study was to examine (1) the association between physical work load and LBP, (2) the predictive effect of fear-avoidance beliefs on the development of LBP, and (3) the moderating effect of fear-avoidance beliefs on the association between physical work load and LBP among cases with and without previous LBP. METHODS: A questionnaire survey among 5696 newly qualified health care workers who completed a baseline questionnaire shortly before completing their education and a follow-up questionnaire 12 months later. Participants were selected on the following criteria: (a) being female, (b) working in the health care sector (n = 2677). Multinomial logistic regression analysis was used to evaluate the effect of physical work load and fear-avoidance beliefs on the severity of LBP. RESULTS: For
those with previous LBP, physical work load has an importance, but not among those without previous LBP. In relation to fear-avoidance beliefs, there is a positive relation between it and LBP of than 30 days in both groups, i.e. those without and with previous LBP. No moderating effect of fear-avoidance beliefs on the association between physical work load and LBP was found among cases with and without LBP. CONCLUSION: Both physical work load and fear-avoidance beliefs matters in those with previous LBP. Only fear-avoidance beliefs matters in those without previous LBP. The study did not find a moderating effect of fear-avoidance beliefs on the association between physical work load and LBP.


**Abstract** — Although chronic low back pain (cLBP) is increasingly recognized as a complex syndrome with multifactorial etiology, the pathogenic mechanisms leading to the development of chronic pain in this condition remain poorly understood. This article presents a new, testable pathophysiological model integrating connective tissue plasticity mechanisms with several well-developed areas of research on cLBP (pain psychology, postural control, neuroplasticity). We hypothesize that pain-related fear leads to a cycle of decreased movement, connective tissue remodeling, inflammation, nervous system sensitization and further decreased mobility. In addition to providing a new, testable framework for future mechanistic studies of cLBP, the integration of connective tissue and nervous system plasticity into the model will potentially illuminate the mechanisms of a variety of treatments that may reverse these abnormalities by applying mechanical forces to soft tissues (e.g. physical therapy, massage, chiropractic manipulation, acupuncture), by changing specific movement patterns (e.g. movement therapies, yoga) or more generally by increasing activity levels (e.g. recreational exercise). Non-invasive measures of connective tissue remodeling may eventually become important tools to evaluate and follow patients with cLBP in research and clinical practice. An integrative mechanistic model incorporating behavioral and structural aspects of cLBP will strengthen the rationale for a multidisciplinary treatment approach including direct mechanical tissue stimulation, movement reeducation, psychosocial intervention and pharmacological treatment to address this common and debilitating condition.


**Abstract** — Chronic low back pain is a common problem in primary care. A history and physical examination should place patients into one of several categories: (1) nonspecific low back pain; (2) back pain associated with radiculopathy or spinal stenosis; (3) back pain referred from a nonspinal source; or (4) back pain associated with another specific spinal cause. For patients who have back pain associated with radiculopathy, spinal stenosis, or another specific spinal cause, magnetic resonance imaging or computed
tomography may establish the diagnosis and guide management. Because evidence of improved outcomes is lacking, lumbar spine radiography should be delayed for at least one to two months in patients with nonspecific pain. Acetaminophen and nonsteroidal anti-inflammatory drugs are first-line medications for chronic low back pain. Tramadol, opioids, and other adjunctive medications may benefit some patients who do not respond to nonsteroidal anti-inflammatory drugs. Acupuncture, exercise therapy, multidisciplinary rehabilitation programs, massage, behavior therapy, and spinal manipulation are effective in certain clinical situations. Patients with radicular symptoms may benefit from epidural steroid injections, but studies have produced mixed results. Most patients with chronic low back pain will not benefit from surgery. A surgical evaluation may be considered for select patients with functional disabilities or refractory pain despite multiple nonsurgical treatments.


Abstract — OBJECTIVE: To determine the effectiveness of lessons in the Alexander technique, massage therapy, and advice from a doctor to take exercise (exercise prescription) along with nurse delivered behavioural counselling for patients with chronic or recurrent back pain. DESIGN: Factorial randomised trial. Setting 64 general practices in England. PARTICIPANTS: 579 patients with chronic or recurrent low back pain; 144 were randomised to normal care, 147 to massage, 144 to six Alexander technique lessons, and 144 to 24 Alexander technique lessons; half of each of these groups were randomised to exercise prescription. INTERVENTIONS: Normal care (control), six sessions of massage, six or 24 lessons on the Alexander technique, and prescription for exercise from a doctor with nurse delivered behavioural counselling. MAIN OUTCOME MEASURES: Roland Morris disability score (number of activities impaired by pain) and number of days in pain. RESULTS: Exercise and lessons in the Alexander technique, but not massage, remained effective at one year (compared with control Roland disability score 8.1: massage -0.58, 95% confidence interval -1.94 to 0.77, six lessons -1.40, -2.77 to -0.03, 24 lessons -3.4, -4.76 to -2.03, and exercise -1.29, -2.25 to -0.34). Exercise after six lessons achieved 72% of the effect of 24 lessons alone (Roland disability score -2.98 and -4.14, respectively). Number of days with back pain in the past four weeks were lower after lessons (compared with control median 21 days: 24 lessons -18, six lessons -10, massage -7) and quality of life improved significantly. No significant harms were reported. CONCLUSIONS: One to one lessons in the Alexander technique from registered teachers have long term benefits for patients with chronic back pain. Six lessons followed by exercise prescription were nearly as effective as 24 lessons.

Abstract — OBJECTIVE: To assess the association of alexithymia (deficit in emotional awareness) with 12-month prevalence of low back pain (LBP) cross-sectionally in a cohort study of 1180 San Francisco transit operators. METHODS: Alexithymia was measured by the Toronto Alexithymia Scale (TAS-20). LBP was assessed in medical histories during drivers relicensing exams. Multivariate logistic regression analyses controlled for demographic, behavioral (smoking, alcohol, coping style), and physical and psychosocial job factors measured by questionnaire and interview. RESULTS: Of all the drivers, 31.4% suffered from LBP. Scoring in the upper quartile of alexithymia summary scores was associated with twofold higher odds of LBP (adjusted odds ratio=2.00, 95% confidence interval: 1.31-3.00). The association was stronger in women (adj. OR=4.35) than in men (adj. OR=1.83). The factor "difficulty identifying feelings" showed the strongest association with LBP (adj. OR=2.23). CONCLUSION: The results support an association between alexithymia and LBP.


Abstract — This study explored whether there is a significant difference in perceived low back pain relief between patients receiving massage versus traditional therapy, using a 2-variable by 3-variable fully crossed, factorial, comparative research design. Statistical results showed slightly more efficacy for traditional therapy; however, the additional benefits of massage add to its value for holistic nursing practice.


Abstract — BACKGROUND: Few studies have evaluated the association between patient expectations for recovery and clinical outcomes, and no study has evaluated whether asking patients to choose their therapy modifies such an association. OBJECTIVE: To evaluate the association between patients' expectations and functional recovery in patients with acute low back pain (LBP), and to determine whether that association is affected by giving patients choice of therapy. DESIGN AND PARTICIPANTS: A secondary analysis of a randomized controlled trial comparing usual care alone to usual care plus choice of chiropractic, acupuncture, or massage in 444 adults with acute LBP, lasting less than 21 days. MEASUREMENTS AND MAIN RESULTS: Primary outcome was functional disability (Roland score) at 5 and 12 weeks. Patients' general expectations for improvement were associated with improvement in functional status (beta = 0.96, 95% CI = 0.56, 1.36). A 1-point increase in general
expectations was associated with a 0.96-point improvement in Roland score. The association of expectation with outcome was 2-3 times greater in the usual care group than the choice group. However, these differences did not reach statistical significance.

CONCLUSIONS: In patients with acute LBP, higher expectations for recovery are associated with greater functional improvement. Eliciting patient expectations for improvement may be a simple way to identify patients with the highest (or lowest) likelihood of experiencing functional improvement. Incorporating questions about patient expectations in future trials may clarify the role of this important correlate of clinical outcomes.


Abstract — OBJECTIVE: To evaluate the effect of conservative interventions on clinically relevant outcome measures for patients with subacute low back pain. This is particularly important because effective treatment for subacute low back pain will prevent the transition to chronic low back pain, a condition that is largely responsible for the high health care costs of low back pain. DESIGN: Systematic review of randomized controlled trials. MAIN OUTCOME MEASURES: Methodological quality of each trial was assessed. Effect sizes and 95% confidence intervals were calculated for pain and disability and risk ratios for return to work. RESULTS: Thirteen trials were located, evaluating the following interventions: manipulation, back school, exercise, advice, transcutaneous electrical nerve stimulation (TENS), hydrotherapy, massage, corset, cognitive behavioural treatment and co-ordination of primary health care. Most studies were of low quality and did not show a statistically significant effect of intervention. For the strict duration of low back pain (six weeks to three months), no evidence of high internal validity was found but when other methodological criteria were considered, evidence was found for the efficacy of advice. Furthermore, there is evidence that when a broader view is taken of the duration of subacute low back pain (seven days to six months), other treatments (e.g. manipulation, exercise, TENS) may be effective. CONCLUSIONS: Our review identified a major gap in the evidence for interventions that are currently recommended in clinical practice guidelines for the treatment of subacute low back pain. Lack of a uniform definition of subacute low back pain further limited current evidence.


Abstract — BACKGROUND: Despite the growing popularity of therapeutic massage in the US, little is known about the training or practice characteristics of massage therapists. The objective of this study was to describe these characteristics. METHODS: As part of a study of random samples of complementary and alternative medicine (CAM) practitioners, we interviewed 226 massage therapists licensed in Connecticut and Washington state by telephone in 1998 and 1999 (85% of those contacted) and then asked a sample of them to record information on 20 consecutive visits to their practices (total of 2005 consecutive visits). RESULTS: Most massage therapists were women (85%), white (95%), and had completed some continuing education training (79% in Connecticut and 52% in Washington). They treated a limited number of conditions, most commonly musculoskeletal (59% and 63%) (especially back, neck, and shoulder problems), wellness care (20% and 19%), and psychological complaints (9% and 6%) (especially anxiety and depression). Practitioners commonly used one or more assessment techniques (67% and 74%) and gave a massage emphasizing Swedish (81% and 77%), deep tissue (63% and 65%), and trigger/pressure point techniques (52% and 46%). Self-care recommendations, including increasing water intake, body awareness, and specific forms of movement, were made as part of more than 80% of visits. Although most patients self-referred to massage, more than one-quarter were receiving concomitant care for the same problem from a physician. Massage therapists rarely communicated with these physicians. CONCLUSION: This study provides new information about licensed massage therapists that should be useful to physicians and other healthcare providers interested in learning about massage therapy in order to advise their patients about this popular CAM therapy.


Abstract — BACKGROUND: One of the challenges in conducting research in the field of massage and bodywork is the lack of consistent terminology for describing the treatments given by massage therapists. The objective of this study was to develop a taxonomy to describe what massage therapists actually do when giving a massage to patients with musculoskeletal pain. METHODS: After conducting a review of the massage treatment literature for musculoskeletal pain, a list of candidate techniques was generated for possible inclusion in the taxonomy. This list was modified after discussions with a senior massage therapist educator and seven experienced massage therapists participating in a study of massage for neck pain. RESULTS: The taxonomy was conceptualized as a three level classification system, principal goals of treatment, styles, and techniques. Four categories described the principal goal of treatment (i.e., relaxation massage, clinical massage, movement re-education and energy work). Each principal
goal of treatment could be met using a number of different styles, with each style consisting of a number of specific techniques. A total of 36 distinct techniques were identified and described, many of which could be included in multiple styles.

CONCLUSION: A new classification system is presented whereby practitioners using different styles of massage can describe the techniques they employ using consistent terminology. This system could help facilitate standardized reporting of massage interventions.


Abstract — OBJECTIVES: To describe the diagnostic and therapeutic content of visits for chronic back pain to acupuncturists, chiropractors, and massage therapists. METHODS: Randomly selected acupuncturists, chiropractors, and massage therapists in two states were surveyed, and then eligible providers collected data on consecutive patient visits. The authors analyzed information on diagnosis, treatment, and self-care recommendations for chronic back pain patients collected during consecutive patient visits to these complementary and alternative medicine (CAM) providers. RESULTS: Back pain was the most common reason for visits to each of these providers, with chronic back pain representing about 10% of visits to acupuncturists, 20% of visits to chiropractors, and 12% of visits to massage therapists. Diagnosis by acupuncturists included traditional questioning and inspecting the patient as well as pulse and tongue assessment and palpation of the acupuncture meridians. Treatments usually included acupuncture needling, heat of some sort, and other modalities, such as East Asian massage, herbs, and/or cupping (application of suction cups to the skin). Lifestyle recommendations were common, particularly exercise and dietary counseling. Visits to chiropractors usually included spinal and muscle/soft tissue examinations and spinal manipulation. Soft tissue techniques (eg, "active release"), stretch or strength training, and home exercise recommendations were much less common. Massage therapists usually performed a tissue assessment and commonly assessed range of motion. They emphasized Swedish, deep tissue, and trigger point massage techniques and usually made self-care recommendations, particularly increased water intake, hot/cold therapy, exercise, and body awareness. CONCLUSION: Information on the care patients routinely receive from CAM providers will help physicians better understand these increasingly popular forms of care.

**Abstract** — ABSTRACT: BACKGROUND: Back pain, one of the most prevalent conditions afflicting American adults, is the leading reason for using complementary and alternative medicine (CAM) therapies. Yoga is an increasingly popular "mind-body" CAM therapy often used for relieving back pain and several small studies have found yoga effective for this condition. This study will assess whether yoga is effective for treating chronic low back pain compared with self-care and exercise and will explore the mechanisms responsible for any observed benefits. METHODS: A total of 210 participants with low back pain lasting at least 3 months will be recruited from primary care clinics of a large healthcare system based in Seattle. They will be randomized in a 2:2:1 ratio to receive 12 weekly yoga classes, 12 weekly conventional therapeutic exercise classes of comparable physical exertion, or a self-care book. Interviewers masked to participants' treatment group will assess outcomes at baseline and 6, 12 and 26 weeks after randomization. Primary outcomes will be back-related dysfunction and symptom bothersomeness. In addition, data will be collected on physical measurements (e.g., flexion) at baseline and 12 weeks and saliva samples will be obtained at baseline, 6 and 12 weeks. Information will be collected on specific physical, psychological, and physiological factors to allow exploration of possible mechanisms of action through which yoga could relieve back pain and dysfunction. The effectiveness of yoga will be assessed using analysis of covariance (using general estimating equations – GEE) within an intention-to-treat context. If yoga is found effective, further analyses will explore whether yoga's benefits are attributable to physical, psychological and/or physiological factors. CONCLUSIONS: This study will provide the clearest evidence to date about the value of yoga as a therapeutic option for treating chronic back pain, and if the results are positive, will help focus future, more in-depth, research on the most promising potential mechanisms of action identified by this study. Trial registration This trial is registered in ClinicalTrials.gov, with the ID number of NCT00447668.


**Abstract** — The support for the principles of evidence-based medicine has increased within the field of complementary and alternative medicine (CAM). The objective of this chapter is to determine the effectiveness of CAM therapies compared to placebo, no intervention, or other interventions for acute/subacute and chronic non-specific low back pain (LBP). Results from Cochrane reviews on acupuncture, botanical medicine, massage, neuroreflexotherapy, and spinal manipulation have been used. The results showed that acupuncture is more effective than no treatment or sham treatment for chronic LBP but that there are no differences in effectiveness compared with other conventional therapies. Specific botanical medicines can be effective for acute episodes of chronic non-specific LBP in terms of short-term improvement in pain and functional
status; long-term efficacy was not assessed. Massage seems more beneficial than sham
treatment for chronic non-specific LBP but effectiveness compared with other
cconventional therapies is inconclusive. Neuroreflexotherapy appears to be more effective
than sham treatment or standard care for chronic non-specific LBP. Spinal manipulation
was more effective than sham manipulation or ineffective therapies, and equally effective
as other conventional therapies. In summary, the results on CAM therapies for (acute
episodes of) chronic LBP are promising but more evidence on the relative cost-
effectiveness compared to conventional treatments is needed.

This reference list was created as part of the work of the Massage Therapy
Foundation's Best Practices Committee. It contains a core of articles forming a
meta-context for massage guidelines in treating stress.

comfort intervention for cardiac surgery patients Clinical Nurse Specialist CNS 21(3):
161–5; quiz 166. doi: 10.1097/01.NUR.0000270014.97457.d5, issn: 0887-6274.

Abstract — Integrative therapies have gained support in the literature as a method to
control pain and anxiety. Many institutions have integrated massage therapy into their
programs. Few studies have looked at the specific benefits of massage therapy for cardiac
surgical patients. These patients undergo long surgical procedures and often complain of
back, shoulder, and neck pain or general stress and tension. Clinical nurse specialist
identify the benefits for patients and bring the evidence on massage therapy to the clinical
setting. This article will provide an overview of the benefits of massage in the reduction
of pain, anxiety, and tension in cardiac surgical patients. Reports of benefits seen with
integration of massage in 1 cardiac surgical unit as part of evidence-based practice
initiative for management of pain will be described. A clinical case example of a patient
who has experienced cardiac surgery and received massage therapy will be shared.

employer-provided massage therapy on job satisfaction, workplace stress, and pain and

Abstract — Long-term care staff have high levels of musculoskeletal concerns. This
research provided a pilot program to evaluate the efficacy of employer-funded on-site
massage therapy on job satisfaction, workplace stress, pain, and discomfort. Twenty-
minute massage therapy sessions were provided. Evaluation demonstrated possible
improvements in job satisfaction, with initial benefits in pain severity, and the greatest
benefit for individuals with preexisting symptoms. A long-term effect was not
demonstrated.

Complementary and alternative medicine use among adults: United States, 2002 Advance
Abstract — OBJECTIVE: This report presents selected estimates of complementary and alternative medicine (CAM) use among U.S. adults, using data from the 2002 National Health Interview Survey (NHIS), conducted by the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS). METHODS: Data for the U.S. civilian noninstitutionalized population were collected using computer-assisted personal interviews (CAPI). This report is based on 31,044 interviews of adults age 18 years and over. Statistics shown in this report were age adjusted to the year 2000 U.S. standard population. RESULTS: Sixty-two percent of adults used some form of CAM therapy during the past 12 months when the definition of CAM therapy included prayer specifically for health reasons. When prayer specifically for health reasons was excluded from the definition, 36% of adults used some form of CAM therapy during the past 12 months. The 10 most commonly used CAM therapies during the past 12 months were use of prayer specifically for one's own health (43.0%), prayer by others for one's own health (24.4%), natural products (18.9%), deep breathing exercises (11.6%), participation in prayer group for one's own health (9.6%), meditation (7.6%), chiropractic care (7.5%), yoga (5.1%), massage (5.0%), and diet-based therapies (3.5%). Use of CAM varies by sex, race, geographic region, health insurance status, use of cigarettes or alcohol, and hospitalization. CAM was most often used to treat back pain or back problems, head or chest colds, neck pain or neck problems, joint pain or stiffness, and anxiety or depression. Adults age 18 years or over who used CAM were more likely to do so because they believed that CAM combined with conventional medical treatments would help (54.9%) and/or they thought it would be interesting to try (50.1%). Most adults who have ever used CAM have used it within the past 12 months, although there is variation by CAM therapy.


Abstract — OBJECTIVE: This report presents selected estimates of complementary and alternative medicine (CAM) use among U.S. adults and children, using data from the 2007 National Health Interview Survey (NHIS), conducted by the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS). Trends in adult use were assessed by comparing data from the 2007 and 2002 NHIS. METHODS: Estimates were derived from the Complementary and Alternative Medicine supplements and Core components of the 2007 and 2002 NHIS. Estimates were generated and comparisons conducted using the SUĐAAN statistical package to account for the complex sample design. RESULTS: In 2007, almost 4 out of 10 adults had used CAM therapy in the past 12 months, with the most commonly used therapies being nonvitamin, nonmineral, natural products (17.7%) and deep breathing exercises (12.7%). American Indian or Alaska Native adults (50.3%) and white adults (43.1%) were more likely to use CAM than Asian adults (39.9%) or black adults (25.5%). Results from the 2007 NHIS found that approximately one in nine children (11.8%) used CAM therapy in the past 12 months, with the most commonly used therapies being nonvitamin, nonmineral, natural products (3.9%) and chiropractic or osteopathic manipulation (2.8%). Children whose parent used CAM were almost five times as likely (23.9%) to use CAM as children.
whose parent did not use CAM (5.1%). For both adults and children in 2007, when worry about cost delayed receipt of conventional care, individuals were more likely to use CAM than when the cost of conventional care was not a worry. Between 2002 and 2007 increased use was seen among adults for acupuncture, deep breathing exercises, massage therapy, meditation, naturopathy, and yoga. CAM use for head or chest colds showed a marked decrease from 2002 to 2007 (9.5% to 2.0%).


**Abstract** — Occupational health nurses have the opportunity to work effectively with employees in the area of complementary and alternative health care. The above Sidebar summarizes important points related to the occupational health nurse's role in this rapidly growing aspect of health care delivery.


**Abstract** — Dossey (2001) says, "The nurse serves as a facilitator and helps assist the patient and his or her significant others to be in the best state for healing to take place. Nurses are in a unique position to be instruments of healing at all times." According to Fitch (1999), "A fundamental goal of nursing is to comfort." Complementary and alternative therapies offer many self care and comforting remedies help employees prevent disease and promote healing. Occupational health nurses have the ability to educate employees and offer guidance about CAM therapies; encourage self care management of minor complaints; and encourage employees, when appropriate, to seek health care. As employees' use of CAM continues to increase, occupational health nurses need to monitor use of CAM therapies among employees. Nurses should inform the employer, case managers, and insurance companies involved about the potential increase in CAM use to promote changes in the health care system and integrate conventional and CAM therapies as needed. Further research related to CAM therapies continues as the health care system warrants safe, effective, and cost effective ways to promote health and prevent or manage illness.


**Abstract** — This study aimed to describe the experience of massage for breast cancer patients during chemotherapy treatment. Ten patients received massage at five occasions. They were interviewed and analysis was conducted using Giorgi's ideas of
phenomenological research. The essential meaning of getting massage during chemotherapy was described as a retreat from the feeling of uneasiness toward chemotherapy. Results revealed five themes: the patients experienced distraction from the frightening experience, a turn from negative to positive, a sense of relaxation, a confirmation of caring, and finally they just felt good. In conclusion, the findings of this study show that massage offered a retreat from uneasy, unwanted, negative feelings connected with chemotherapy treatment. It is a treatment that can be added to the arsenal of treatment choices available to the oncological staff.


**Abstract** — OBJECTIVES: To examine the short-term effects of light pressure effleurage on circulating lymphocytes by studying the number and activity of peripheral blood natural killer (NK) cells in patients with breast cancer compared to a control group. Furthermore, the effect of light pressure effleurage on salivary cortisol levels, heart rate and blood pressure was studied. DESIGN: Single centre, prospective, randomized and controlled study. METHODS: Thirty women, aged 50 to 75 years (mean 61 sd=7.2) with breast cancer undergoing radiation therapy in a hospital in southwestern Sweden were enrolled in the study. They were allocated to either receive massage in the form of a full-body light pressure effleurage treatment, or a control visit where they were given an equal amount of attention. Blood samples, saliva, notation of heart rate and blood pressure were collected before and after massage/control visit. Differences in change over time between groups were analyzed by Student's t-test. RESULTS: Light pressure effleurage massage decreased the deterioration of NK cell activity occurring during radiation therapy. Furthermore it lowered heart rate and systolic blood pressure. No effects were demonstrated on cortisol and diastolic pressure. CONCLUSIONS: A single full-body light pressure effleurage massage has a short-term effect on NK cell activity, systolic blood pressure and heart rate in patients with breast cancer. However, the long-term clinical importance of these findings needs to be further investigated.


**Abstract** — OBJECTIVE: To investigate the effectiveness of massage therapy in reducing physiological and psychological indicators of stress in nurses employed in an acute care hospital. DESIGN: Randomised controlled trial. SETTING: Acute care hospital in Queensland. SUBJECTS: Sixty nurses were recruited to the five week study and randomly assigned to two groups. INTERVENTION: A 15 minute back massage once a week. The control group did not receive any therapy. MAIN OUTCOME MEASURES: Demographic information, a life events questionnaire and a brief medical
history of all participants was completed at enrolment. Physiological stress was measured at weeks one, three and five by urinary cortisol and blood pressure readings. Psychological stress levels were measured at weeks one and five with the State-Trait Anxiety Inventory (STAI). RESULTS: Differences in the change in urinary cortisol and blood pressure between the two groups did not reach statistical significance. However, STAI scores decreased over the five weeks for those participants who received a weekly massage. The STAI scores of the control group increased over the five week period. These differences between the groups were statistically significant. CONCLUSION: The results of this study suggest that massage therapy is a beneficial tool for the health of nurses as it may reduce psychological stress levels. It is recommended that further large studies be conducted to measure the symptoms of stress rather than the physiological signs of stress in nurses.


Abstract — This study evaluated the effectiveness of a 15-min. on-site massage while seated in a chair on reducing stress as indicated by blood pressure. 52 employed participants' blood pressures were measured before and after a 15-min. massage at work. Analysis showed a significant reduction in participants' systolic and diastolic blood pressure after receiving the massage although there was no control group.


Abstract — OBJECTIVE: The purpose of this study was to determine the amount and type of negative side-effects and positive (unexpected) effects experienced after a massage session. STUDY DESIGN: Cross-sectional. SETTING: Massage clinic at a health sciences university. SUBJECTS: Of the 100 new and returning massage therapy clients who agreed to participate, 91 completed all survey questions. Outcome measures: Telephone survey and medical chart review 2-7 days postmassage. RESULTS: Overall, 10% of the massage clients experienced some minor discomfort after the massage session; however, 23% experienced unexpected, nonmusculoskeletal positive side-effects. The majority of negative symptoms started less than 12 hours after the massage and lasted for 36 hours or less. The majority of positive benefits began immediately after massage and lasted more than 48 hours. No major side-effects occurred during this study. CONCLUSIONS: This the first known study to define the rate of side-effects after massage therapy treatment. These data are important for risk-benefit analyses of massage care. Larger studies are needed to verify these data and to assess effects of different massage types and durations.
Abstract — BACKGROUND: People with depressive disorders or subsyndromal symptoms of depression (SSD) often use complementary and alternative therapies, including massage therapy (MT). This systematic review evaluates the evidence, from randomised clinical trials (RCTs), for the effectiveness of multiple sessions of classical European (Swedish) MT for the treatment of depression. METHODS: Eligible RCTs were identified via eight electronic databases and manual searches of references. Two reviewers independently selected trials, assessed trial quality and extracted data. RESULTS: Four RCTs met our inclusion criteria. Three of these RCTs compared MT with relaxation therapies, but provided insufficient data and analyses to contribute meaningfully to the evaluation of MT for depression. The fourth included RCT used MT as a control condition to evaluate a depression-specific acupuncture treatment. This trial provided limited evidence that, in the early stages of treatment, MT is less effective than acupuncture for treating depression, a treatment which itself is not accepted for this condition. CONCLUSIONS: Despite previous research suggesting that MT may be an effective treatment for depression, there is currently a lack of evidence to support this assertion from RCTs that have selected participants for depression or SSD.

Abstract — OBJECTIVES: To (1) describe the integration of massage and energy-based therapies with psychotherapy in a community mental health center, (2) to present qualitative feedback on the service, and (3) to present pilot data from a sample of long-term clients with persistent mental health concerns. DESIGN: A noncontrolled pilot study was conducted using interview data before and self-report instruments after completing a brief program of complementary therapy accompanying ongoing psychotherapy. SETTINGS/LOCATION: The program took place at a comprehensive community mental health center in southern Maine and in the private offices of massage therapists and energy healing practitioners who contracted with the program. SUBJECTS: Subjects were 20 women and 5 men, with mean age of 42 years and a mean history of 7.4 years of mental health treatment. All had histories that included trauma, 10 of which involved sexual abuse. The Diagnostic and Statistical Manual of Mental Disorders IV Axis I diagnoses were PTSD (10), major depression (nine), anxiety disorder (three), and dual diagnosis (three). INTERVENTIONS: Clients receiving ongoing psychotherapy were assigned to one modality of complementary therapy based on clinical judgment, availability of practitioners, and client interest. Modalities used were massage, acupuncture, Reiki, and Healing Touch. The mean number of sessions was five.
OUTCOME MEASURES: Clients completed an investigator-generated instrument with Likert-scaled ratings of satisfaction and perceived changes in four dimensions of trauma recovery: perceived interpersonal safety, interpersonal boundary setting, bodily sensation, and bodily shame. RESULTS: Clients reported high levels of satisfaction with the service and significant levels of perceived (self-rated) change on each outcome measure. Qualitative results included enhanced psychotherapeutic outcomes reported by mental health clinicians. CONCLUSIONS: The integration of complementary therapies into community mental health practice may hold promise of enhancing mental health outcomes and improving quality of life for long-term users of mental health services.


Abstract — BACKGROUND: As the popularity of complementary/alternative medicine (CAM) grows, patients are incorporating more CAM therapies into their conventional cancer care. Massage therapy, a CAM therapy known primarily for its use in relaxation, may also benefit patients with cancer in other ways. Massage can also be associated with risks in the oncology population. Risks can be minimized and benefits maximized when the clinician feels comfortable discussing CAM with his or her patients. This article reviews and summarizes the literature on massage and cancer to help provide the clinician with information to help facilitate discussions with patients. METHODS: MEDLINE and CINAHL databases were searched to identify relevant articles. These were reviewed for content and other pertinent references. RESULTS: Significant information was extracted from these resources to provide this overview of the use of massage for patients with cancer. CONCLUSIONS: Conventional care for patients with cancer can safely incorporate massage therapy, although cancer patients may be at higher risk of rare adverse events. The strongest evidence for benefits of massage is for stress and anxiety reduction, although research for pain control and management of other symptoms common to patients with cancer, including pain, is promising. The oncologist should feel comfortable discussing massage therapy with patients and be able to refer patients to a qualified massage therapist as appropriate.


Abstract — AIM AND OBJECTIVES: This article explores relatives' experiences of receiving soft tissue massage as a support supplement while caring for a dying family member at home. BACKGROUND: In palliative home care, relatives play an important role as carers to seriously ill and dying family members. To improve their quality of life, different support strategies are of importance. Complementary methods, such as soft tissue massage have become an appreciated supplement for these patients. However, only few studies focus on relatives experiences of receiving soft tissue massage as a
supplemental support. DESIGN: Qualitative design METHOD: Nineteen relatives received soft tissue massage (hand or foot) nine times (25 minutes) in their homes. Open-ended semi-structured tape-recorded interviews were conducted once per relative after the nine times of massage, using qualitative content analysis. RESULTS: Soft tissue massage gave the relatives' feelings of 'being cared for', 'body vitality' and 'peace of mind'. For a while, they put worries of daily life aside as they just experienced 'being'. During massage, it became apparent that body and mind is constituted of an indestructible completeness. The overarching theme was 'inner power, physical strength and existential well-being in their daily lives'. CONCLUSION: All relatives experienced soft tissue massage positively, although they were under considerable stress. Soft tissue massage could be an option to comfort and support relatives in palliative home care. RELEVANCE TO CLINICAL PRACTICE: In palliative nursing care, soft tissue massage could present a worthy supplement in supporting caring relatives.


Abstract — The objective of this study was to assess the impact of a Swedish massage intervention on oncology patients' perceived level of distress. Each patient's distress level was measured using 4 distinct dimensions: pain, physical discomfort, emotional discomfort, and fatigue. A total of 251 oncology patients volunteered to participate in this nonrandomized single-group pre- and post design study for over a 3-year period at a university hospital setting in southeastern Georgia. The analysis found a statistically significant reduction in patient-reported distress for all 4 measures: pain (F = 638.208, P = .000), physical discomfort (F = 742.575, P = .000), emotional discomfort (F = 512.000, P = .000), and fatigue (F = 597.976, P = .000). This reduction in patient distress was observed regardless of gender, age, ethnicity, or cancer type. These results lend support for the inclusion of a complementary massage therapy program for hospitalized oncology patients as a means of enhancing their course of treatment.


Abstract — INTRODUCTION: Massage is a popular adjunct to cancer palliation. This systematic review is aimed at critically evaluating all available randomised clinical trials of massage in cancer palliation. MATERIALS AND METHODS: Six databases were searched to identify all trials of classical massage for cancer patients. Studies of other types of massage, e.g. reflexology, aromatherapy, were excluded. Fourteen trials met all inclusion criteria. DISCUSSION: Collectively, they suggest that massage can alleviate a wide range of symptoms: pain, nausea, anxiety, depression, anger, stress and fatigue. However, the methodological quality of the included studies was poor, a fact that
prevents definitive conclusions. CONCLUSION: The evidence is, therefore, encouraging but not compelling. The subject seems to warrant further investigations which avoid the limitations of previous studies.


**Abstract** — BACKGROUND: Job stress among healthcare workers has received more attention in recent years, perhaps because these professionals are prime candidates for high stress levels. METHOD: The immediate effects of brief massage therapy, music relaxation with visual imagery, muscle relaxation, and social support group sessions were assessed in 100 hospital employees at a major public hospital. DESIGN: The effects of the therapies were assessed using a within-subjects pre-post test design and by comparisons across groups. RESULTS: Groups reported decreases in anxiety, depression, fatigue, and confusion, as well as increased vigor following the sessions. CONCLUSION: That the groups did not differ on these variables suggests that these particular therapies, when applied for short periods of time, are equally effective for reducing stress among hospital employees.


**Abstract** — Twenty-eight adult patients with burns were randomly assigned before debridement to either a massage therapy group or a standard treatment control group. State anxiety and cortisol levels decreased, and behavior ratings of state, activity, vocalizations, and anxiety improved after the massage therapy sessions on the first and last days of treatment. Longer-term effects were also significantly better for the massage therapy group including decreases in depression and anger, and decreased pain on the McGill Pain Questionnaire, Present Pain Intensity scale, and Visual Analogue Scale. Although the underlying mechanisms are not known, these data suggest that debridement sessions were less painful after the massage therapy sessions due to a reduction in anxiety, and that the clinical course was probably enhanced as the result of a reduction in pain, anger, and depression.


**Abstract** — Eighty-four depressed pregnant women were recruited during the second trimester of pregnancy and randomly assigned to a massage therapy group, a progressive muscle relaxation group or a control group that received standard prenatal care alone.
These groups were compared to each other and to a non-depressed group at the end of pregnancy. The massage therapy group participants received two 20 min therapy sessions by their significant others each week for 16 weeks of pregnancy, starting during the second trimester. The relaxation group provided themselves with progressive muscle relaxation sessions on the same time schedule. Immediately after the massage therapy sessions on the first and last days of the 16-week period the women reported lower levels of anxiety and depressed mood and less leg and back pain. By the end of the study the massage group had higher dopamine and serotonin levels and lower levels of cortisol and norepinephrine. These changes may have contributed to the reduced fetal activity and the better neonatal outcome for the massage group (i.e. lesser incidence of prematurity and low birthweight), as well as their better performance on the Brazelton Neonatal Behavior Assessment. The data suggest that depressed pregnant women and their offspring can benefit from massage therapy.


**Abstract** — In this article the positive effects of massage therapy on biochemistry are reviewed including decreased levels of cortisol and increased levels of serotonin and dopamine. The research reviewed includes studies on depression (including sex abuse and eating disorder studies), pain syndrome studies, research on auto-immune conditions (including asthma and chronic fatigue), immune studies (including HIV and breast cancer), and studies on the reduction of stress on the job, the stress of aging, and pregnancy stress. In studies in which cortisol was assayed either in saliva or in urine, significant decreases were noted in cortisol levels (averaging decreases 31%). In studies in which the activating neurotransmitters (serotonin and dopamine) were assayed in urine, an average increase of 28% was noted for serotonin and an average increase of 31% was noted for dopamine. These studies combined suggest the stress-alleviating effects (decreased cortisol) and the activating effects (increased serotonin and dopamine) of massage therapy on a variety of medical conditions and stressful experiences.


**Abstract** — OBJECTIVE: The aim of the present pilot study was to examine the effectiveness of a relaxation massage therapy programme in reducing stress, anxiety and aggression on a young adult psychiatric inpatient unit. METHOD: This was a prospective, non-randomized intervention study comparing treatment as usual (TAU) with TAU plus massage therapy intervention (MT) over consecutive 7 week blocks.
(May-August 2006). MT consisted of a 20 min massage therapy session offered daily to patients during their period of hospitalization. The Kennedy Nurses Observation Scale for Inpatient Evaluation (NOSIE), the Symptom Checklist-90-Revised (SCL-90-R), the State-Trait Anxiety Inventory (STAI) and stress hormone (saliva cortisol) levels were used to measure patient outcomes at admission and discharge from the unit. The Staff Observation Aggression Scale-Revised (SOAS-R) was used to monitor the frequency and severity of aggressive incidents on the unit. RESULTS: There was a significant reduction in self-reported anxiety (p < 0.001), resting heart rate (p < 0.05) and cortisol levels (p < 0.05) immediately following the initial and final massage therapy sessions. Significant improvements in hostility (p = 0.007) and depression scores (p < 0.001) on the SCL-90-R were observed in both treatment groups. There was no group x time interaction on any of the measures. Poor reliability of staff-reported incidents on the SOAS-R limited the validity of results in this domain. CONCLUSIONS: Massage therapy had immediate beneficial effects on anxiety-related measures and may be a useful de-escalating tool for reducing stress and anxiety in acutely hospitalized psychiatric patients. Study limitations preclude any definite conclusions on the effect of massage therapy on aggressive incidents in an acute psychiatric setting. Randomized controlled trials are warranted.


Abstract — BACKGROUND: Spouses of patients with cancer are at risk for stress-related disorders and may experience a reduction in immune function. Therapeutic back massage (TBM) has been shown to enhance relaxation and thus, may reduce stress associated with caring for an ill partner. OBJECTIVES: To determine if TBM's influences on psychosocial, physiologic, and immune function variables in spouses of patients with cancer, and explore the relationships between psychosocial variables and immune function in spouses of patients with cancer. METHODS: This group experimental design measured the effects of a 20-minute TBM at three time points (preintervention, immediately postintervention, 20 minutes postintervention) on spouses of patients with cancer (N= 42) randomly assigned to either the experimental or control group. The major dependent variables including natural killer cell activity (NKCA), heart rate, systolic and diastolic blood pressure, mood, and perceived stress were measured at the three time points to examine the effects of TBM. Data collected on measures of mood and perceived stress were correlated with NKCA to examine their relationships. Prior to hypotheses testing, data collected on measures of depressive mood, loneliness, marital disruption, and health practices were also correlated with NKCA to ascertain any possible confounding variables. RESULTS: Two-way repeated measures analysis of variance tests determined the effects of TBM over the two postintervention time points and resulted in significant group x time interactions on mood (F [2, 40]= 14.61, p=.0005) and perceived stress (F [2, 40]= 28.66, p=.001). Significant inverse relationships were found between mood and NKCA (r= -.41, p=.009, N= 42) and perceived stress and NKCA (r= -.37, p=.017, N= 42). DISCUSSION: Findings suggest that TBM may enhance mood and
reduce perceived stress in this population. Insight was gained into the psycho-immunologic relationships studied.


**Abstract** — BACKGROUND: Many patients presenting in general practice are suffering from stress. Approaches using complementary therapies are gaining popularity but have not been systematically evaluated. AIM: To compare the effect of six sessions of therapeutic massage with the use of a relaxation tape on stress, as measured by The General Health Questionnaire (GHQ-30). DESIGN OF STUDY: Randomised controlled trial. SETTING: A stress reduction clinic in general practice. METHOD: There were three treatment groups. Patients in the first group received six sessions of therapeutic massage, which was carried out by a nurse trained in this technique. Patients in the second group were given six sessions using a relaxation tape in the surgery and those in the third group were given a relaxation tape to use at home. The main outcome measures were: the GHQ-30, the Adapted Well Being Index (AWBI); a sleep scale; general practitioner (GP) consultations for any reason in the six weeks before treatment, during treatment, and the six weeks following treatment; and patient satisfaction. RESULTS: Sixty-nine patients completed the treatment. There were significant improvements across all four outcome measures and all three treatment groups. Following treatment the majority of patients felt far less emotional disturbance, were sleeping better, and consulting their GP less. CONCLUSION: Despite very strong patient preference for therapeutic massage, it did not show any benefits over either a relaxation tape used in the surgery or a relaxation tape used at home.


**Abstract** — OBJECTIVE: The aim of this study was to evaluate a school-based adolescent health promotion programme with focus on well-being related to stress. STUDY DESIGN: Interventional and evaluative with tests before and after the intervention. The study was performed in two secondary schools in a town on the west coast of Sweden. METHODS: A health promotion programme comprising massage and mental training was implemented for a single academic year in one school (intervention school, 153 participants) in order to strengthen and maintain well-being. No intervention was implemented in the other school (non-intervention school, 287 participants). A questionnaire was developed and tested, resulting in 23 items distributed across the following six areas: self-reliance; leisure time; being an outsider; general and home satisfaction; school satisfaction; and school environment. RESULTS: A pre- and postintervention comparison of the six areas was made within each school. In the
intervention school, the boys maintained a very good or good sense of well-being related to stress in all six areas, while the girls' sense of well-being was maintained in five areas and deteriorated in one area. In the non-intervention school, the boys maintained a very good or good sense of well-being related to stress in four areas and deteriorated in two areas, while the girls' sense of well-being was maintained in two areas and deteriorated in four areas. CONCLUSION: Massage and mental training helped to maintain adolescents' very good or good sense of well-being related to stress. A questionnaire with acceptable validity and reliability was developed and tested in order to evaluate the health promotional approach. However, there is a need for further study to develop both the intervention and the questionnaire for young people.


Abstract — Critical care can be considered to be a stressful environment at both physiological and psychological levels for patients. In this article, a research study in which a five-minute foot massage was offered to 25 patients (68 sessions in total) as a stress-reduction intervention is described. A quasi-experimental repeated measures design was used to collect data before, during and after the intervention. Physiological data (heart rate, mean arterial blood pressure, respirations and peripheral oxygen saturation) were obtained from the patient bedside monitoring system. Repeated measures analysis of variance indicated there was no significant effect from the intervention on peripheral oxygen saturation. However, a significant decrease in heart rate, blood pressure and respirations was observed during the foot massage intervention. Results indicated foot massage had the potential effect of increasing relaxation as evidenced by physiological changes during the brief intervention administered to critically ill patients in intensive care.


Abstract — BACKGROUND: Infection with human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) is a pandemic that has affected millions of people globally. Although major research and clinical initiatives are addressing prevention and cure strategies, issues of quality of life for survivors have received less attention. Massage therapy is proposed to have a positive effect on quality of life and may also have a positive effect on immune function through stress mediation. OBJECTIVES: The objective of this systematic review was to examine the safety and effectiveness of massage therapy on quality of life, pain and immune system parameters in people living with HIV/AIDS. SEARCH STRATEGY: A comprehensive search strategy was devised incorporating appropriate terms for HIV/AIDS, randomised controlled trials (RCTs), massage therapy and the pertinent measures of benefit. All electronic databases identified
were searched in November 2008, including Cochrane Group Trials Register, Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, EMBASE, SCIENCE CITATION INDEX, AIDSLINE, AIDSearch, CINAHL, HEALTHSTAR, PsycLIT, AMED, Current Contents, AMI, NLM GATEWAY, LILACS, IndMed, SOCIOTAL, SCI, SSCI, ERIC and DAI. We also reviewed relevant published and unpublished conference abstracts and proceedings and scrutinised reference lists from pertinent journals. There were no language or date restrictions. SELECTION CRITERIA: Studies were identified by two reviewers based on trial design (RCTs) and participants (ie, people of any age with HIV/AIDS, at any stage of the disease) who had undergone an intervention that included massage therapy for the identified aims of improving quality of life and activity and participation levels, improving immune function, reducing pain and improving other physiological or psychological impairments. DATA COLLECTION AND ANALYSIS: Two reviewers independently identified included studies and extracted relevant data. Two other reviewers independently reviewed the included studies for risk of bias. All data and risk of bias judgements were entered into Revman (v5) and meta-analyses were conducted where appropriate. MAIN RESULTS: Twelve papers were identified, from which four were included. The remaining eight papers were excluded predominantly due to inappropriate methodology. The four included studies were highly clinically heterogenous, investigating a range of age groups (ie, children, adolescents and adults) across the disease spectrum from early HIV through late-stage AIDS. The settings were either community or palliative care, and the outcome measures were a combination of quality of life and immunological function. The trials were judged to be at moderate risk of bias mostly because of incomplete reporting. For quality of life measures, the studies reported that massage therapy in combination with other modalities, such as meditation and stress reduction, are superior to massage therapy alone or to the other modalities alone. The quality of life domains with significant effect sizes included self-reported reduced use of health care resources, improvement in self-perceived spiritual quality of life and improvement in total quality of life scores. One study also reported positive changes in immune function, in particular CD4+ cell count and natural killer cell counts, due to massage therapy, and one study reported no difference between people given massage therapy and controls in immune parameters. Adverse or harmful effects were not well reported. AUTHORS’ CONCLUSIONS: There is some evidence to support the use of massage therapy to improve quality of life for people living with HIV/AIDS (PLWHA), particularly in combination with other stress-management modalities, and that massage therapy may have a positive effect on immunological function. The trials are small, however, and at moderate risk of bias. Further studies are needed using larger sample sizes and rigorous design/reporting before massage therapy can be strongly recommended for PLWHA.


Abstract — OBJECTIVE: To systematically investigate the treatment effects of massage therapy in depressed people by incorporating data from recent studies. DATA
SOURCES: A meta-analysis of randomized controlled trials (RCTs) of massage therapy in depressed people was conducted using published studies from PubMed, EMBASE, PsycINFO, and CINAHL electronic database from inception until July 2008. The terms used for the search were derived from medical subheading term (MeSH) massage combined with MeSH depression. Hand searching was also checked for bibliographies of relevant articles. Retrieval articles were constrained to RCTs/clinical trials and human subjects. No language restrictions were imposed. STUDY SELECTION: We included 17 studies containing 786 persons from 246 retrieved references. Trials with other intervention, combined therapy, and massage on infants or pregnant women were excluded. DATA EXTRACTION: Two reviewers independently performed initial screen and assessed quality indicators by Jadad scale. Data were extracted on publication year, participant characteristics, and outcomes by another single reviewer. DATA SYNTHESIS: All trials showed positive effect of massage therapy on depressed people. Seventeen RCTs were of moderate quality, with a mean quality score of 6.4 (SD = 0.85). The pooled standardized mean difference in fixed- and random-effects models were 0.76 (95% CI, 0.61-0.91) and 0.73 (95% CI, 0.52-0.93), respectively. Both indicated significant effectiveness in the treatment group compared with the control group. The variance between these studies revealed possible heterogeneity (tau(2) = 0.06, Cochran chi(2)(16) = 25.77, P = .06). CONCLUSIONS: Massage therapy is significantly associated with alleviated depressive symptoms. However, standardized protocols of massage therapy, various depression rating scales, and target populations in further studies are suggested.


Abstract — PURPOSE/OBJECTIVES: To review relevant literature about massage therapy to assess the feasibility of integrating the body-based complementary and alternative medicine (CAM) practice as a supportive care intervention for children with cancer. DATA SOURCES: PubMed, online references, published government reports, and the bibliographies of retrieved articles, reviews, and books on massage and massage and cancer. More than 70 citations were reviewed. DATA SYNTHESIS: Massage therapy may help mitigate pain, anxiety, depression, constipation, and high blood pressure and may be beneficial during periods of profound immune suppression. Massage techniques light to medium in pressure are appropriate in the pediatric oncology setting. CONCLUSIONS: Massage is an applicable, noninvasive, therapeutic modality that can be integrated safely as an adjunct intervention for managing side effects and psychological conditions associated with anticancer treatment in children. Massage may support immune function during periods of immunosuppression. IMPLICATIONS FOR NURSING: Pediatric oncology nurses are vital in helping patients safely integrate CAM into conventional treatment. Pediatric oncology nurses can help maximize patient outcomes by assessing, advocating, and coordinating massage therapy services as a supportive care intervention.
Abstract — In this research, a device, which has a therotherapeutic and massaging function and relaxes muscles, was used to evaluate the effect muscle relaxation has on stress relief. Therefore, the physiological changes namely Heart Rate (HR), Heart Rate Variability (HRV) and Skin Temperature (SKT) of the subjects which reflect the autonomic nervous system and cardiovascular relationship were obtained and analyzed. In order to evaluate the assumption that the treatment relieves the subject's physiological and psychological stress, experiment was carried out on 25 adults (13 male and 12 female, age 52.32+/-18.121) through stages consisted of relaxation, pre-treatment, treatment and post-treatment. Treatment was provided to the back, stomach and leg area by massaging 55 degrees C heat to the back. According as the physiological changes of subjects before and after treatment were compared, the present research was able to prove that thermotherapy and massage treatment induces physiological change of patients thus relieves stress.

Abstract — AIM: In the present study, we describe the effects of deep tissue massage on systolic, diastolic, and mean arterial blood pressure. MATERIALS AND METHODS: The study involved 263 volunteers (12% males and 88% females), with an average age of 48.5. Overall muscle spasm/muscle strain was described as either moderate or severe for each patient. Baseline blood pressure and heart rate were measured via an automatic blood pressure cuff. Twenty-one (21) different soothing CDs played in the background as the deep tissue massage was performed over the course of the study. The masses were between 45 and 60 minutes in duration. The data were analyzed using analysis of variance with post-hoc Scheffe's F-test. RESULTS: Results of the present study demonstrated an average systolic pressure reduction of 10.4 mm Hg (p<0.06), a diastolic pressure reduction of 5.3 mm Hg (p<0.04), a mean arterial pressure reduction of 7.0 mm Hg (p<0.47), and an average heart rate reduction of 10.8 beats per minute (p<0.0003), respectively. CONCLUSIONS: Additional scientific research in this area is warranted.

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Abstract — The purpose of this pilot study was to assess the level of stress experienced by caregivers of brain tumor patients and to examine both their interest in and preferences for stress reduction programs. Using a convenience sample of 60 adult caregivers, we distributed a study questionnaire that examined the caregivers' level of stress, beliefs, past experiences, and preferences in regard to stress reduction programs. A majority of respondents reported elevated stress levels (72%), believed that stress reduction techniques can help reduce stress (87%), and were interested in learning about programs to reduce stress (81%). Overall, most participants wanted to receive information about stress reduction programs (65%) and were interested in programs such as exercise (73%) and massage (66%) as methods to reduce stress. Concerning mode and format preferences, 46% indicated that they could participate in a program at least twice a week, and 70% could participate in a program for an interval of 30 minutes or more. Ninety percent of the caregivers preferred programs that could be undertaken in their own homes either alone (37%), with a spouse (35%), or with the brain tumor patient for whom they were providing care (28%). Overall, 44% of caregivers sampled were interested in participating in the various stress reduction programs presented to them in this study. These data provide further evidence that caregivers experience elevated levels of stress and are willing to learn more about and participate in programs to reduce stress.


Abstract — PURPOSE/OBJECTIVES: To design and test a reliable and valid instrument to determine the frequency of use of complementary and alternative medicine (CAM) therapies among women diagnosed with breast cancer. DESIGN: A descriptive cross-sectional survey. SETTING: Women were recruited from the southeastern area and a rural midwestern area of the United States. SAMPLE: 105 predominantly Caucasian women (mean = 59 years of age) with a diagnosis of breast cancer. METHODS: The Use of Complementary and Alternative Therapies Survey was designed with a content validity index, and reliability was determined with the coefficient alpha. Exploratory factor analysis using a principal components analysis identified primary components (factors) embedded within the survey. Frequency of CAM therapy use was calculated for 33 individual therapies listed on the survey and among three survey-defined subscales of CAM therapies (i.e., diet and nutritional supplements, stress-reducing techniques, and traditional and ethnic medicines). MAIN RESEARCH VARIABLES: Psychometric properties of an instrument to assess frequency of use of CAM among women with breast cancer. FINDINGS: The reported prevalence of use of the individual CAM therapies varied considerably. The coefficient alpha estimate for the total survey was 0.86. Estimates for the individual hypothesized subscales were 0.67 for diet and nutritional supplements, 0.79 for stress-reducing techniques, and 0.80 for traditional and ethnic medicines. The principal components analysis resulted in a two-factor solution with nine items that loaded heavily and uniquely on a factor conceptualized as stress and anxiety reduction and six items that loaded heavily and uniquely on a factor conceptualized as...
dietary and physical manipulation. The remaining five items (vitamins and minerals, prayer and spiritual healing, massage, reflexology, and aromatherapy) indicated moderate loadings on factors one and two and, thus, were interpreted as equivocal items.

CONCLUSIONS: Preliminary data indicated that the instrument is reliable and valid. Additional work is needed to improve the range of items and to test the instrument with other populations. IMPLICATIONS FOR NURSING: Use of CAM by women with breast cancer is believed to be increasing. However, limited data exist on the frequency and predictors of its use in this patient population; therefore, reliable and valid instruments are needed to determine use. If nurses can determine which CAM therapies women are employing, nurses can educate patients with breast cancer on the safe use of these therapies.


Abstract — To investigate the efficacy of classical massage on stress perception and mood disturbances, 34 women diagnosed with primary breast cancer were randomized into an intervention or control group. For a period of 5 weeks, the intervention group (n = 17) received biweekly 30-min classical massages. The control group (n = 17) received no additional treatment to their routine health care. The Perceived Stress Questionnaire (PSQ) and the Berlin Mood Questionnaire (BSF) were used and the patients' blood was collected at baseline (T1), at the end of the intervention period (T2), and 6 weeks after T2 (T3). Compared with control group, women in the intervention group reported significantly lower mood disturbances, especially for anger (p = 0.048), anxious depression (p = 0.03) at T2, and tiredness at T3 (p = 0.01). No group differences were found in PSQ scales, cortisol and serotonin concentrations at T2 and T3. However, perceived stress and cortisol serum levels (p = 0.03) were significantly reduced after massage therapy (T2) compared with baseline in the intervention group. Further research is needed to validate our findings.


Abstract — BACKGROUND: Recent epidemiological data indicate that chronic stress is an important component of cardiovascular risk, implicitly suggesting that stress management might offer a useful complement to orthodox medical treatment and prevention of hypertension. In this context, information on mechanisms, such as subclinical increases in arterial pressure and sympathetic drive, is well documented. Conversely, evidence on methodologies and comparative efficacy needs to be improved. Accordingly, this study was planned to test the autonomic and subjective effects of two
popular modalities of stress management. METHODS: We studied 70 patients complaining of stress-related symptoms, avoiding any potential autonomic confounder, such as established hypertension or drug treatment. Patients were divided in three groups: group I (n = 30) followed a breathing-guided relaxation training (active); group II (n = 15) an oriental massage, shiatsu (passive); and group III (n = 25) followed a sham intervention. Subjective effects of stress were assessed by validated questionnaires and autonomic nervous system regulation by spectral analysis of RR interval variability. Factor analysis was used to extract information simultaneously embedded in subjective and functional data. RESULTS: Although the problem of a greater quantity of treatment procedure in the active group than in the passive group existed, results showed that active relaxation, further to slightly reducing arterial pressure, might be more effective in relieving symptoms of stress and inducing an improved profile of autonomic cardiovascular regulation, as compared with passive massage or sham intervention. CONCLUSION: This active technique seems capable of beneficially addressing simultaneously the individual psychological and physiopathological dimensions of stress in clinical settings, with potentially beneficial effects on cardiovascular risk profile.


Abstract — Complementary and alternative medicine (CAM) use among cancer patients varies according to geographical area, gender, and disease diagnosis. The prevalence of CAM use among cancer patients in the United States has been estimated to be between 7% and 54%. Most cancer patients use CAM with the hope of boosting the immune system, relieving pain, and controlling side effects related to disease or treatment. Only a minority of patients include CAM in the treatment plan with curative intent. This review article focuses on practices belonging to the CAM domains of mind-body medicine, CAM botanicals, manipulative practices, and energy medicine, because they are widely used as complementary approaches to palliative cancer care and cancer symptom management. In the area of cancer symptom management, auricular acupuncture, therapeutic touch, and hypnosis may help to manage cancer pain. Music therapy, massage, and hypnosis may have an effect on anxiety, and both acupuncture and massage may have a therapeutic role in cancer fatigue. Acupuncture and selected botanicals may reduce chemotherapy-induced nausea and emesis, and hypnosis and guided imagery may be beneficial in anticipatory nausea and vomiting. Transcendental meditation and the mindfulness-based stress reduction can play a role in the management of depressed mood and anxiety. Black cohosh and phytoestrogen-rich foods may reduce vasomotor symptoms in postmenopausal women. Most CAM approaches to the treatment of cancer are safe when used by a CAM practitioner experienced in the treatment of cancer patients. The potential for many commonly used botanical to interact with prescription drugs continues to be a concern. Botanicals should be used with caution by cancer patients and only under the guidance of an oncologist knowledgeable in their use.
Abstract — BACKGROUND: Healthcare workers can suffer from occupational stress which may lead to serious mental and physical health problems. OBJECTIVES: To evaluate the effectiveness of work and person-directed interventions in preventing stress at work in healthcare workers. SEARCH STRATEGY: We searched the Cochrane Depression Anxiety and Neurosis Group trials Specialised Register, MEDLINE, PsychInfo and Cochrane Occupational Health Field database. SELECTION CRITERIA: Randomised controlled clinical trials (RCT) of interventions aimed at preventing psychological stress in healthcare workers. For work-directed interventions interrupted time series and prospective cohort were also eligible. DATA COLLECTION AND ANALYSIS: Two authors independently extracted data and assessed trial quality. Meta-analysis and qualitative synthesis were performed where appropriate. MAIN RESULTS: We identified 14 RCTs, three cluster-randomised trials and two crossover trials, including a total of 1,564 participants in intervention groups and 1,248 controls. Two trials were of high quality. Interventions were grouped into 1) person-directed: cognitive-behavioural, relaxation, music-making, therapeutic massage and multicomponent; and 2) work-directed: attitude change and communication, support from colleagues and participatory problem solving and decision-making, and changes in work organisation. There is limited evidence that person-directed interventions can reduce stress (standardised mean difference or SMD -0.85; 95% CI -1.21, -0.49); burnout: Emotional Exhaustion (weighted mean difference or WMD -5.82; 95% CI -11.02, -0.63) and lack of Personal Accomplishment (WMD -3.61; 95% CI -4.65, -2.58); and anxiety: state anxiety (WMD -9.42; 95% CI -16.92, -1.93) and trait anxiety (WMD -6.91; 95% CI -12.80, -1.01). One trial showed that stress remained low a month after intervention (WMD -6.10; 95% CI -8.44, -3.76). Another trial showed a reduction in Emotional Exhaustion (Mean Difference or MD -2.69; 95% CI -4.20, -1.17) and in lack of Personal Accomplishment (MD -2.41; 95% CI -3.83, -0.99) maintained up to two years when the intervention was boosted with refresher sessions. Two studies showed a reduction that was maintained up to a month in state anxiety (WMD -8.31; 95% CI -11.49, -5.13) and trait anxiety (WMD -4.09; 95% CI -7.60, -0.58). There is limited evidence that work-directed interventions can reduce stress symptoms (Mean Difference or MD -0.34; 95% CI -0.62, -0.06); Depersonalization (MD -1.14; 95% CI -2.18, -0.10), and general symptoms (MD -2.90; 95% CI -5.16, -0.64). One study showed that the difference in stress symptom level was nonsignificant at six months (MD -0.19; 95% CI -0.49, 0.11). AUTHORS’ CONCLUSIONS: Limited evidence is available for the effectiveness of interventions to reduce stress levels in healthcare workers. Larger and better quality trials are needed.
Abstract — CONTEXT: Admission to the hospital for a diagnostic cardiac catheterization can be perceived as a threat to one's health status. Autonomic nervous system arousal, particularly the sympathetic division, can elicit negative physiological and psychological human responses as a reaction to this threat. OBJECTIVE: The purpose of this study was to measure the effects of a 20-minute back massage on the physiological and psychological human responses of patients admitted for a diagnostic cardiac catheterization. DESIGN: A randomized clinical trial design was used. Data were compared in a repeated measures design before massage (T1), immediately following the back massage or standard care (T2), and 10 minutes later (T3). SETTING: A large urban academic medical center. PARTICIPANTS: Forty-six subjects admitted from home for a diagnostic cardiac catheterization. MAIN OUTCOME MEASURES: Heart rate, heart rate variability, blood pressure, respiration, peripheral skin temperature, pain perception, and psychological state. INTERVENTION: A 20-minute back massage. RESULTS: There was a significant difference between subject effect for group, with a reduction in systolic blood pressure in the treatment group (F = 8.6, P < .05). In addition, main effects were noted for time for diastolic blood pressure (F = 5.44; P < .006), respiration (F = 10.6; P < .005), total Profile of Mood States score (F = 5.9; P < .001) and pain perception (F = 4.09; P < .04) in both groups. CONCLUSIONS: A 20-minute back massage appeared to reduce systolic blood pressure in patients awaiting a diagnostic cardiac catheterization, while preparatory time in the cardiac catheterization laboratory appeared to reduce diastolic blood pressure, respiration, perceived psychological distress, and pain.


Abstract — OBJECTIVE: To assess the association of alexithymia (deficit in emotional awareness) with 12-month prevalence of low back pain (LBP) cross-sectionally in a cohort study of 1180 San Francisco transit operators. METHODS: Alexithymia was measured by the Toronto Alexithymia Scale (TAS-20). LBP was assessed in medical histories during drivers relicensing exams. Multivariate logistic regression analyses controlled for demographic, behavioral (smoking, alcohol, coping style), and physical and psychosocial job factors measured by questionnaire and interview. RESULTS: Of all the drivers, 31.4% suffered from LBP. Scoring in the upper quartile of alexithymia summary scores was associated with twofold higher odds of LBP (adjusted odds ratio=2.00, 95% confidence interval: 1.31-3.00). The association was stronger in women (adj. OR=4.35) than in men (adj. OR=1.83). The factor "difficulty identifying feelings" showed the strongest association with LBP (adj. OR=2.23). CONCLUSION: The results support an association between alexithymia and LBP.

Abstract — The neuromatrix theory of pain proposes that pain is a multidimensional experience produced by characteristic "neurosignature" patterns of nerve impulses generated by a widely distributed neural network—the "body-self neuromatrix"—in the brain. These neurosignature patterns may be triggered by sensory inputs, but they may also be generated independently of them. Acute pains evoked by brief noxious inputs have been meticulously investigated by neuroscientists, and their sensory transmission mechanisms are generally well understood. In contrast, chronic pain syndromes, which are often characterized by severe pain associated with little or no discernible injury or pathology, remain a mystery. Furthermore, chronic psychological or physical stress is often associated with chronic pain, but the relationship is poorly understood. The neuromatrix theory of pain provides a new conceptual framework to examine these problems. It proposes that the output patterns of the body-self neuromatrix activate perceptual, homeostatic, and behavioral programs after injury, pathology, or chronic stress. Pain, then, is produced by the output of a widely distributed neural network in the brain rather than directly by sensory input evoked by injury, inflammation, or other pathology. The neuromatrix, which is genetically determined and modified by sensory experience, is the primary mechanism that generates the neural pattern that produces pain. Its output pattern is determined by multiple influences, of which the somatic sensory input is only a part, that converge on the neuromatrix.


Abstract — Complementary and alternative medicine approaches to treatment for tension-type headache are increasingly popular among patients, but evidence supporting its efficacy is limited. The objective of this study was to assess short-term changes on primary and secondary headache pain measures in patients with tension-type headache (TTH) receiving a structured massage therapy program with a focus on myofascial trigger point therapy. Participants were enrolled in an open-label trial using a baseline control with four 3-week phases: baseline, massage (two 3-week phases) and follow-up. Twice weekly, 45-minute massage sessions commenced following the baseline phase. A daily headache diary was maintained throughout the study in which participants recorded headache incidence, intensity, and duration. The Headache Disability Index was administered upon study entry and at 3-week intervals thereafter. 18 subjects were enrolled with 16 completing all headache diary, evaluation, and massage assignments. Study participants reported a median of 7.5 years with TTH. Headache frequency decreased from 4.7+/-0.7 episodes per week during baseline to 3.7+/-0.9 during treatment period 2 (P<0.001); reduction was also noted during the follow-up phase (3.2+/-1.0). Secondary measures of headache also decreased across the study phases with headache intensity decreasing by 30% (P<0.01) and headache duration from 4.0+/-1.3 to 2.8+/-0.5 hours (P<0.05). A corresponding improvement in Headache Disability Index was found with massage (P<0.001). This pilot study provides preliminary evidence for reduction in headache pain and disability with massage therapy that targets myofascial trigger points, suggesting the need for more rigorously controlled studies.
Abstract — Investigations into complementary and alternative medicine (CAM) approaches to address stress, depression, and anxiety of those experiencing chronic pain are rare. The objective of this pilot study was to assess the value of a structured massage therapy program, with a focus on myofascial trigger points, on psychological measures associated with tension-type headache. Participants were enrolled in an open-label trial using a baseline control with four 3-week phases: baseline, massage (two 3-week periods) and a follow-up phase. Eighteen subjects with episodic or chronic tension-type headache were enrolled and evaluated at 3-week intervals using the State-Trait Anxiety Inventory, Beck Depression Inventory, and the Perceived Stress Scale. The Daily Stress Inventory was administered over 7-day periods during baseline and the final week of massage. Twice weekly, 45-minute massage therapy sessions commenced following the baseline phase and continued for 6 weeks. A significant improvement in all psychological measures was detected over the timeframe of the study. Post hoc evaluation indicated improvement over baseline for depression and trait anxiety following 6 weeks of massage, but not 3 weeks. A reduction in the number of events deemed stressful as well as their respective impact was detected. This pilot study provides evidence for reduction of affective distress in a chronic pain population, suggesting the need for more rigorously controlled studies using massage therapy to address psychological measures associated with TTH.

Abstract — Use of massage therapy by the general public has increased substantially in recent years. In light of the popularity of massage therapy for stress reduction, a comprehensive review of the peer-reviewed literature is important to summarize the effectiveness of this modality on stress-reactive physiological measures. On-line databases were searched for articles relevant to both massage therapy and stress. Articles were included in this review if (i) the massage therapy account consisted of manipulation of soft tissues and was conducted by a trained therapist, and (ii) a dependent measure to evaluate physiological stress was reported. Hormonal and physical parameters are reviewed. A total of 25 studies met all inclusion criteria. A majority of studies employed a 20-30 min massage administered twice-weekly over 5 weeks with evaluations conducted pre-post an individual session (single treatment) or following a series of sessions (multiple treatments). Single treatment reductions in salivary cortisol and heart rate were consistently noted. A sustained reduction for these measures was not supported in the literature, although the single-treatment effect was repeatable within a study. To date, the research data is insufficient to make definitive statements regarding the multiple
treatment effect of massage therapy on urinary cortisol or catecholamines, but some evidence for a positive effect on diastolic blood pressure has been documented. While significant improvement has been demonstrated following massage therapy, the general research body on this topic lacks the necessary scientific rigor to provide a definitive understanding of the effect massage therapy has on many physiological variables associated with stress.


Abstract — Massage therapy (MT) is an ancient form of treatment that is now gaining popularity as part of the complementary and alternative medical therapy movement. A meta-analysis was conducted of studies that used random assignment to test the effectiveness of MT. Mean effect sizes were calculated from 37 studies for 9 dependent variables. Single applications of MT reduced state anxiety, blood pressure, and heart rate but not negative mood, immediate assessment of pain, and cortisol level. Multiple applications reduced delayed assessment of pain. Reductions of trait anxiety and depression were MT's largest effects, with a course of treatment providing benefits similar in magnitude to those of psychotherapy. No moderators were statistically significant, though continued testing is needed. The limitations of a medical model of MT are discussed, and it is proposed that new MT theories and research use a psychotherapy perspective.


Abstract — CONTEXT: Anxiety and its pharmacological treatment can interfere with cardiac catheterization. Massage therapy has been used primarily in nonmedical settings for relaxation and stress reduction, and some research demonstrates its efficacy in medical environments. OBJECTIVE: First, to determine whether massage could be administered under "normal" conditions in an interventional cardiology center. Second, to evaluate the efficacy of massage in reducing anxiety before, during, and after a cardiac catheterization procedure. DESIGN: A prospective, randomized, controlled, single-masked, pilot study. SETTING: An interventional cardiology center at an urban hospital in New York, NY PATIENTS: Seventy-eight patients (59 men, 19 women), with a mean age of 60.1 years who were scheduled for an elective, diagnostic catheterization based on routine clinical practices. INTERVENTION: Treatment subjects received a standardized, 10-minute massage. Control subjects spent 10 minutes of quiet time with a massage therapist. MAIN OUTCOME MEASURES: We evaluated the feasibility of incorporating massage into the time period between the patient's arrival at the hospital and catheterization, patient interest in receiving massage, and staff support of this complementary therapy. We further evaluated self-ratings of anxiety and pain or discomfort on visual analog scales, vital signs, cortisol levels, and analgesic or anxiolytic
intake. RESULTS: A 10-minute massage was feasibly incorporated before catheterization. Seventy percent of the patients consented to participate, and staff supported the intervention. Mean anxiety scores on a 166 mm visual analog scale dropped by 16.2 mm (SD, 24.6) in the massaged group and by 6.8 mm (SD, 17.3) in the control group (P = .081). No statistically significant results were found in pain or discomfort visual analog scale scores (P = .491), blood pressure (P = .827), heart rate (P = .935), respiration rate (P = .916), or analgesic and anxiolytic usage (P > or = .252). Cortisol levels are discussed as exploratory, data. CONCLUSIONS: The results of the study suggest that a 10-minute massage before an invasive cardiac procedure is insufficient to decrease stress measurably.


Abstract — BACKGROUND AND OBJECTIVES: Some patients with advanced cancer make use of complementary therapies for the reduction of anxiety and stress. These patients can suffer distressing end-of-life symptoms, which conventional treatments might not relieve satisfactorily. Although previous studies have suggested that complementary therapies could be useful for reducing distress in patients with cancer, it has remained unclear whether these benefits are applicable at the end-of-life stage. The current study examined to validate salivary chromogranin A (CgA) as a biomarker for relieving stress by hand massage in terminally ill patients. METHODS: The study group comprised 34 inpatients in palliative care units. Each of these patients received a 5-minute massage to the upper extremity. Before and after the massage, saliva samples were collected in order to measure the CgA levels. RESULTS: The brief hand massage appears to reduce levels of stress according to the salivary CgA (p < 0.05). In addition, we found statistically significant changes in patient satisfaction with hand massage. CONCLUSIONS: Salivary CgA could potentially be used as a biomarker to measure relieving stress by hand massage in a palliative-care setting.


Abstract — The difficulties that adolescent mothers encounter as a result of the combined stress of adolescence, parenthood, maintaining peer relationships, and establishing positive relationships with their infants have been identified in the literature, and these characteristics are often associated with poor infant outcomes. This study was designed to examine the effects of an infant massage intervention on adolescent mothers' attitudes and perceptions of their infants. Twenty-five African-American adolescent mothers (mean age 16.13 years), who were enrolled in a parent training program for high school students in a southern state, participated in the project. The mothers were assigned randomly to an intervention (9) or control group (16). After a brief training session,
participants in the intervention group practiced massage with their infants for approximately 2 months. Data analysis was based on the 15 participants who completed both baseline and 2-month follow-up measures (8 in the control group and 7 in the intervention group). This study found some support for teaching infant massage to adolescent mothers as a way of enhancing maternal-infant physical contact and lowering depression, as well as positively influencing mothers' perceptions of infant temperament. Results indicate that infant massage training may lead to improvements beyond those achieved with a typical parent education curriculum and shows potential as a low-cost supplement to current teen mother education in high schools.


Abstract — To investigate changes in regional cerebral blood flow (rCBF) under the prone condition with and without light massage on the back, we measured rCBF quantitatively in healthy human subjects using positron emission tomography with H(2)15O. Biochemical tests showed that the light massage (palm-pressure) reduced levels of stress-related serum cortisol and salivary stress protein chromogranin-A measured after the PET examination. Absolute rCBF significantly increased in the parietal cortex (precuneus) under the prone condition compared with the supine condition, and this rCBF increase was in parallel with comfortable sensation and slowing heart rate during the massage. Correlation analysis in statistical parametric mapping showed that the amygdalar and basal forebrain rCBF correlated with parasympathetic function (heart rate reduction), indicating involvement of the forebrain-amygdala system in mediating activities in the autonomic nervous system in the presence of comfortable sensation. To conclude, prone posture itself can stimulate the precuneus region to raise awareness, and the light massage on the back may help accommodate the brain to comfortable stimulation.


Abstract — OBJECTIVE: The objective was to assess the effects of massage compared to guided relaxation on stress perception and well-being among older adults. DESIGN: A randomised pilot study enrolled adults ages 60 and older to receive 50 min, twice weekly massage therapy or guided relaxation sessions. Questionnaires were administered at pre-test (1 week before the first session) and post-test (after the last session). SETTING: Participants came to the University of South Carolina campus for sessions. Adults aged 60 and older were recruited from community venues and were briefly screened by telephone for contraindications. INTERVENTION: Participants (n=54) received 50 min
massage or guided relaxation sessions twice weekly for 4 weeks. The massage included Swedish, neuromuscular, and myofascial techniques. For the relaxation group, an appropriately trained assistant read a script to guide the participant in using visualization and muscle relaxation. MAIN OUTCOME MEASURES: The General Well-being Schedule is an 18-item scale with subscales measuring anxiety, depression, positive well-being, self-control, vitality, and general health. The Perceived Stress Scale is a 14-item scale assessing the degree to which situations in one's life are appraised as stressful during the past month. RESULTS: Significant improvements were found for the anxiety, depression, vitality, general health, and positive well-being subscales of the General Well-being Schedule and for Perceived Stress among the massage participants compared to guided relaxation. CONCLUSIONS: Findings indicate that massage therapy enhances positive well-being and reduces stress perception among community-dwelling older adults.


**Abstract** — BACKGROUND: Despite the growing popularity of therapeutic massage in the US, little is known about the training or practice characteristics of massage therapists. The objective of this study was to describe these characteristics. METHODS: As part of a study of random samples of complementary and alternative medicine (CAM) practitioners, we interviewed 226 massage therapists licensed in Connecticut and Washington state by telephone in 1998 and 1999 (85% of those contacted) and then asked a sample of them to record information on 20 consecutive visits to their practices (total of 2005 consecutive visits). RESULTS: Most massage therapists were women (85%), white (95%), and had completed some continuing education training (79% in Connecticut and 52% in Washington). They treated a limited number of conditions, most commonly musculoskeletal (59% and 63%) (especially back, neck, and shoulder problems), wellness care (20% and 19%), and psychological complaints (9% and 6%) (especially anxiety and depression). Practitioners commonly used one or more assessment techniques (67% and 74%) and gave a massage emphasizing Swedish (81% and 77%), deep tissue (63% and 65%), and trigger/pressure point techniques (52% and 46%). Self-care recommendations, including increasing water intake, body awareness, and specific forms of movement, were made as part of more than 80% of visits. Although most patients self-referred to massage, more than one-quarter were receiving concomitant care for the same problem from a physician. Massage therapists rarely communicated with these physicians.

CONCLUSION: This study provides new information about licensed massage therapists that should be useful to physicians and other healthcare providers interested in learning about massage therapy in order to advise their patients about this popular CAM therapy.


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Abstract — PURPOSE: To review the available literature on the use of complementary and alternative medicine (CAM) treatments for cancer-related fatigue with an aim to develop directions for future research. METHODS: PubMed, EMBASE, CINAHL, PsycINFO, and SPORTDiscus were searched for relevant studies. Original clinical trials reporting on the use of CAM treatments for cancer-related fatigue were abstracted and critically reviewed. RESULTS: CAM interventions tested for cancer-related fatigue include acupuncture, aromatherapy, adenosine triphosphate infusions, energy conservation and activity management, healing touch, hypnosis, lectin-standardized mistletoe extract, levocarnitine, massage, mindfulness-based stress reduction, polarity therapy, relaxation, sleep promotion, support group, and Tibetan yoga. Several of these interventions seem promising in initial studies. CONCLUSION: Currently, insufficient data exist to recommend any specific CAM modality for cancer-related fatigue. Therefore, potentially effective CAM interventions ready for further study in large, randomized clinical trials (eg, acupuncture, massage, levocarnitine, and the use of mistletoe) should be pursued. Other interventions should be tested in well-designed feasibility and phase II trials.


Abstract — OBJECTIVE: The objective is to identify whether single 20 min massage sessions were safe and effective in reducing stress levels of isolated haematological oncology patients. DESIGN: Based on a randomised controlled trial, 39 patients were randomised to aromatherapy, massage or rest (control) arm. MEASURES: The measures were serum cortisol and prolactin levels, quality of life (EORTC QLQ-C30) and semi-structured interviews. Primary outcome measure was the fall in serum cortisol levels. RESULTS: A significant difference was seen between arms in cortisol (P=0.002) and prolactin (p=0.031) levels from baseline to 30 min post-session. Aromatherapy and massage arms showed a significantly greater drop in cortisol than the rest arm. Only the massage arm had a significantly greater reduction in prolactin then the rest arm. The EORTC QLQ-C30 showed a significant reduction in 'need for rest' for patients in both experimental arms compared with the control arm, whereas the semi-structured interviews identified a universal feeling of relaxation in patients in the experimental arms. CONCLUSION: This pilot study demonstrated that in isolated haematological oncology patients, a significant reduction in cortisol could be safely achieved through massage, with associated improvement in psychological well-being. The implications are discussed.

Reference list with 52 records generated using MTFBPC MODS-XSL and RefBase Licensed under a Creative Commons Attribution-NonCommercial-NoDerivs 2.5 License
Exercise 1: Communicating Knowledge and Sharing Information
Estimated time to complete: 1 hour
Objectives:
- To lay the groundwork for identifying connections among potential causes and effects in the participant’s body of observed experience.
- To provide a framework within which patterns and relationships in participants experience can be clearly identified.
- To prepare the participant to represent those connections in an unambiguous way to communicate to others by drawing concept graphs.

Introduction
Every one of us has unique experiences in life, and we possess information and knowledge that other people do not have. By sharing the fruits of our experience with others, we give many people the chance to benefit from what we ourselves have learned. And, in turn, we have the opportunity to benefit from their experience, as well. The World Café model used in this conference brings together people from all over, with different experiences to share with one another. The tools covered in this series of exercises will give participants the opportunity to share information quickly and clearly with each other.

This exercise will prepare you to share your information in a structured way, so that other people can read and understand it unambiguously, and so that it can be represented in some form of computer knowledge repository. There are many ways to understand the world around us; the committee has chosen this way because of the advantages it offers in clearly representing our knowledge to each other and in making use of computerized information storage.

You are probably already familiar with mind-mapping, a brainstorming and communications techniques used to represent ideas and connections among those ideas. This series of exercises will take you through a similar process called concept graphing.

Concept graphing is very similar to mind-mapping, but where mind-mapping is limited only by the power of your imagination, concept graphing has a few more restrictions on it. Those restrictions are in place in order to enable and facilitate communication. You can think of those restrictions in the same way as traffic laws operate, or as the way that speakers of a language agree on common terms, in order to be able to communicate with
each other and to ensure that they are talking about the same thing. If drivers did not agree on the meaning of red and green lights, or stop signs, or the correct side of the road to drive on, but instead did exactly what they wanted whenever they wanted to, roads would be impossible to drive on, since no one could depend on what was going to happen next.

Similarly, if a British English speaker and an American English speaker are going to use terms such as “biscuit” (meaning a small kind of bread in American, and a cookie or a cracker in British), they need to agree on the definitions of those ambiguous terms, or confusion will result. Concept graphing takes the unlimited power of mind-mapping, and—like traffic rules or dictionary definitions—makes communications possible between different systems by standardizing the meanings of the terms and ideas involved.

Figure 1-1. Mind-mapping depiction of concepts around time management.
Figure 1-2. Concept graph of "John kissed Mary in the garden at midnight."

Don't worry if you don't understand all the circles on there at first—these exercises will guide you through the process of creating concept graphs. This is not as intimidating a process as it may appear at first glance—you will quickly get the hang of it, and the payoff will be a clear way of sharing information with others in a way that cuts down on misunderstandings and ambiguities.

Now, we'll look at how a massage therapist could start this process. We'll trace the approach of Mariela, a massage therapist working with a client with severe burns, to see how she isolates concepts that will later become part of a concept graph.

Scenario for this exercise:
Mariela, a massage therapist, is working with a client, James, who sustained severe burn injuries in an explosion 12 years ago. James has undergone 30 reconstructive surgeries in that time, and Mariela has worked with him over the last 4 years with the intent of reducing pain, increasing range of motion in scarred tissue, relieving pre-surgical anxiety, promoting the growth of skin for grafts, and providing healthy, normal touch to someone who misses out on it, due to other people’s reactions to his appearance. She wonders whether what she is doing is truly effective, and wants to get information from other people about what massage treatment approaches might be helpful for James, but can find no information specific to James' condition in the medical massage literature. Additionally, the other massage therapists she knows do not have experience working with people as severely scarred as James is, so they do not have any information for her. Mariela has also observed some things by trial-and-error over the years, and she thinks that those things may be helpful to other massage therapists who work with clients with similar problems in the future.

Exercise: Take a moment to reflect on your experiences with those served by massage therapy. If you are a practitioner, were there any clients you worked with who had conditions you had not learned about in massage school? If so, what would you have liked to have known before you started working with this client? How did you eventually find the information you needed? If you are a massage therapy researcher please reflect on what you have studied and what outcomes were intended and what outcomes were achieved.
Make a list with two columns: Column 1 is the massage treatments you tried, and Column 2 is the outcome that you achieved, or that you intended to achieve.

The list could look something like this:

<table>
<thead>
<tr>
<th>Column 1: Treatments</th>
<th>Column 2: Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swedish massage</td>
<td>Relaxation</td>
</tr>
<tr>
<td>Trigger point work</td>
<td>Relieve pain</td>
</tr>
</tbody>
</table>

and so forth, depending on your experience. At this point, it can be as specific or as general as fits your situation; later in this exercise, we will discuss that in more depth.

The list for Mariela, the massage therapist in the scenario above, looks like this:

<table>
<thead>
<tr>
<th>Column 1: Treatments</th>
<th>Column 2: Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swedish massage</td>
<td>Reducing pain</td>
</tr>
<tr>
<td>Friction + AROM/PROM</td>
<td>Increasing range of motion in scarred tissue</td>
</tr>
<tr>
<td>Back, feet, neck, hand massage</td>
<td>Relieving pre-surgical anxiety</td>
</tr>
<tr>
<td>Friction and pétrissage around the edges of saline balloon implant under James’ skin</td>
<td>Promoting the growth of skin for grafts</td>
</tr>
<tr>
<td>Swedish massage</td>
<td>Providing healthy, normal touch</td>
</tr>
</tbody>
</table>

Exercise 2 will break up these outcomes into a verb (relationship) component + a noun (entity) component, and Exercise 3 will draw the list as a noun-verb-noun conceptual graph structure (similar to mind-mapping). These will be the first steps to connecting treatments and outcomes to look for cause-and-effect relationships among them.

Glossary

**Concept:** A mental representation of something that can exist (an entity) in the material world, in imagination only, or in a combination of both.

**Concept graph:** A structured notation, similar to a mind map, that reduces ambiguity and permits logic operations to be applied to the concepts it contains.

**Mind-mapping:** A diagram used to represent and arrange ideas, often for organization, problem-solving, or brainstorming purposes.

**Entity:** Something that exists.

**Relationship:** A connection or bond between two entities. For example, Mary is-mother-of Eric; Hassan loves Miryam; massage is-a-form-of intentional touch.
Exercise 2: A Discussion of Science and a Method of Focusing its Connections to MT Research and Practice

Estimated time to complete: 1 hour

Objectives:
1. Explain the following terms:
   - Empirical
   - Science
   - Term

2. Give an example of a referent, a concept, and a term in the domain of massage therapy; these may be either from the exercise, or you may provide your own.
   - Identify which one of the parts of the Semantic Triangle science is most closely tied to, and why.

Introduction
There are many ways to understand what science is; one useful definition we will use for the purposes of this exercise is the following: Science is a set of methods and tools that human beings have developed in order to better understand cause-and-effect relationships in the natural world. Those relationships may be obvious and direct, or they may be subtle, complex, and unclear, but science can explore them in either case.

To explore this definition further, we need to ground ourselves in some fundamental concepts. Ogden and Richards' Semantic Triangle is a useful visual representation of some of these basic concepts. Although at first it may seem that this is very distantly removed from hands-on massage, we will use all of these concepts in sharing our knowledge about massage with each other. It will require a little concentration at the beginning to get well-grounded in the fundamentals, but the communications payoff will go a long way to sharing knowledge with others.

Charles Ogden and I.A. Richards were linguists of the early 20th century. In their 1923 book, The Meaning of Meaning, they presented what has now come to be known as the “Semantic Triangle” to explore the relationships among objects in the material world, the terms we use to describe those objects, and our ideas about those objects.

For example, a bear in the wild or in a zoo or other physical location is a referent, a material entity in the natural world. It has an existence independent of anything that
someone thinks of it or what name they call it by: different people who see the bear may be reminded of different things, or use different words to point out “Bear!” to their companion, but those facts do not change the everyday reality of the referent bear. The bear can be detected empirically—that is, through the senses. We can see, smell, hear, taste, and touch bears; we can take photographs of them, weigh them, take their pulse and temperature. They are detectable through empirical means, a fact that distinguishes referents from the other components of the Semantic Triangle. The act of touching a client for massage, independent of any thoughts or ideas either of you bring to the process, is an example of a referent in the context of massage.

Another component of the Semantic Triangle is the thoughts people have about referents. Some people who see the bear may think of what dangerous animals bears can be if they feel threatened. Others may remember the reputation female bears have as good mothers, or may be impressed at what a big animal it is. All of these thoughts can be triggered by the sight of the referent bear, but they are not the referent itself. They are the thoughts that we bring from our own experience, as a reaction to the referent we detect. And unlike the referent, the content of these thoughts cannot be detected empirically, although we can communicate about them. In the previous paragraph, the act of touching a client for massage was described as a referent. Someone seeing that might think “I would love to have a relaxing massage myself!”, That thought would be an example of a concept in the context of massage.

Finally, people who walk by and see the bear will call it by different names, depending on what language they speak. An English-speaker may exclaim “Bear!”, while a Spanish-speaker might say “¡Oso!”, a French-speaker “Ours!”, a German-speaker “Bär!”, a Navajo-speaker “Shash!”, and so forth. But while these terms have meaning in the context of each speaker’s own language, there is no absolute connection between the terms and the referent itself. We could have agreed long ago in the history of our
language to call them “pleroths” instead of “bears”, and nothing would have changed as far as the referent bear's reality is concerned. Terms, therefore, are arbitrary, and they derive their meaning from the language they belong to.

An example of a term in massage is the word “massage” itself—English and French speakers use the term “massage”, while Spanish-speakers use the term “massaje” and Cambodian speakers use the term “chap sasay”. But if a massage practitioner you had never met before performed massage on you without speaking a word, you would not know what they called what they are doing, because you would not know what language, and therefore what term they use. Whatever term, though, it does not change the referent act of massage itself.

What all of this has to do with science is that science requires a referent, or an object in the material world, as a topic of study. Other disciplines, such as mathematics, philosophy, or theology can, if necessary, operate entirely in the realms of thoughts and terms—but without a material referent, science cannot operate. So you could talk about a “philosophy” or a “culture” of massage therapy without ever having to eat with a referent, staying strictly in the domain of ideas. But the moment you want to talk about the “science” of massage, you have to be able to connect it to a material referent.

"If science proves some belief of Buddhism wrong, then Buddhism will have to change."—Tenzin Gyatso, the 14th Dalai Lama

And if there is a conflict between the referent, and the ideas or terms associated with that referent, the referent is what science gives preference to in order to resolve that conflict. The quote from the Dalai Lama recognizes that there is not necessarily a conflict between belief and science. But if there is, then when someone is operating as a scientist, then he or she has to suspend that belief for the time being in that context.

Many centuries ago, before telescopes were invented, people observed a very bright heavenly body that was visible to the naked eye in the evening, which they named the “Evening Star”. At other times, it looked to the observer as if there was another heavenly body, visible in the mornings, that was appropriately named the “Morning Star”. These two stars have been depicted in poetry and other literature over the centuries. In this way, they made their way into the thoughts and terms of many cultures as two separate stars.

Except, it turns out that what people thought they saw was not quite right. Neither the Morning Star nor the Evening Star is actually a star; as we were able to learn more about astronomy than our ancestors had access to, and could build upon their knowledge, we discovered that they are, in fact, planets. More accurately, they are a planet—the planet Venus.

It turns out that the Morning Star is Venus when it is more visible from Earth in the morning, and the Evening Star is Venus when it is more visible from Earth at night. So where thoughts and terms described two different stars, the physical referent is actually very different: a single planet. Literature, art, and other disciplines can continue to wax
eloquent about the Morning and Evening Stars, but science has to go with the referent, which is really the planet Venus.

That is the unique quality of science—it is required to tie any statements that it makes to the actual natural referent, to the best degree of knowledge that we have about that referent at the present time. If we cannot make the connection to the referent, we cannot carry out science. This is the reason why we perform outcome studies in massage and other medical research studies—whatever terms we use to describe massage, or whatever ideas we have about what mechanisms may be happening, the outcomes are the referent in the material world that make the process actually be science, and distinguish it from other disciplines.

**Exercise A:**
Identify whether the following are terms, concepts, or referents, and explain your answer:
1. The client's pulse rate, measured immediately after massage
2. Acupressure as a system
3. Your individual ideas about what constitutes wellness
4. The system of Swedish massage
5. Subscapular muscle tension felt on palpation
6. *Nei guan* acupressure point
7. Pregnancy massage
8. Skin temperature of a premature newborn after receiving massage
9. Effleurage, describing long, gentle strokes
10. The human body

**Exercise B:**
The list of treatments and outcomes for Mariela, the massage therapist treating James who was living with burn scars, in the previous exercise looked like this:

<table>
<thead>
<tr>
<th>Column 1: Treatments</th>
<th>Column 2: Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swedish massage</td>
<td>Reducing pain</td>
</tr>
<tr>
<td>Friction + AROM/PROM</td>
<td>Increasing range of motion in scarred tissue</td>
</tr>
<tr>
<td>Back, feet, neck, hand massage</td>
<td>Relieving pre-surgical anxiety</td>
</tr>
<tr>
<td>Friction and pétrissage around the edges of saline balloon implant under James’ skin</td>
<td>Promoting the growth of skin for grafts</td>
</tr>
</tbody>
</table>
Swedish massage  Providing healthy, normal touch

For this exercise, separate out the entity or concept from everything else in the outcome, and write them in two lists. For example, in the first one, “pain” is an entity, and “reducing” is everything else in that outcome. Similarly, in the last one, “healthy, normal touch” is a concept [because “healthy” and “normal” have many layers of concept built into them], and “providing” is everything else.

Exercise 3 will present how to create a concept graph from the entities and relationships you isolate in this exercise.

**Glossary**

**Empirical:** Capable of being detected through the senses.

**Referent:** A material entity in the natural world.

**Science:** A set of methods and tools that human beings have developed in order to better understand cause-and-effect relationships in the natural world, whether direct and obvious, or subtle and complex.

**Semantic Triangle:** A diagram that illustrates the relationships among the different components of meaning.

**Term:** A name by which an entity is called or described.

**Exercise 3: Making Your Own Concept Graphs—Visual Representations of Massage Therapy Knowledge**

Estimated time to complete: 1 hour

**Learning Objectives:**

- Create a concept graph from a previous list of treatments and outcomes

**Introduction**

In Exercise 1, we discussed what a concept graph is, and in preparation for making a concept graph, we compiled a list of treatments and outcomes, based on the treatment plan a massage therapist working with a burn survivor might develop. Now it’s time to take that list, and turn it into a concept graph.

The list of treatments and outcomes for Mariela, the massage therapist treating James who was living with burn scars, in the previous exercise looked like this:
The first thing that it is important to note is that this is a perfectly reasonable way to discuss treatments and outcomes in natural English, but we need to refine it a little more before we can use it in our concept graph. We need to be as precise as possible, so that when we compare anything, we can be sure that we are talking about the same thing. So the first thing we need to do is to break the treatments and outcomes down into the smallest units we can, and give each of them their own box.

There is a regular pattern in the outcomes, so let’s start with those. Once we’re comfortable with that, we can then extend the technique to the treatments, which show more variation.

You’ll notice that all of the outcomes have the form \textit{verb} + \textit{noun} + \textit{optional modifier}. The verb tells what action occurs, and the noun tells what is acted upon. Those two parts are essential to describing the outcome; the optional modifier can provide more details, but is not required.

When we talk about “reducing pain” in conversational language, we’re really putting two things together—the action verb “reduces”, and the noun that is acted upon, “pain”. So for our concept graph, the first thing we will do is give each thing (or entity) its own box:

Next, we’ll draw an arrow to show the action: “reduces” is the action, and “pain” is what is acted upon, so the arrow will go from “reduces” to “pain”:
Since we will be drawing more arrows (representing relationships) between entities in the concept graph, the last thing we will do in this section of the exercise is label the arrow, so that we can tell the difference between diverse kinds of relationships:

![Diagram of relationship between entities]

Entities are in boxes, and labels are in circles so that we won’t have occasion to confuse them with each other.

Now let’s do the same for the second outcome, which has an optional modifier. “increasing” is the action verb, and “range of motion” is the noun entity which is acted upon. We’ll treat those just like we did “reducing” and “pain” in the example above, and we’ll set “in scarred tissue” aside for the moment, just to keep things straightforward at this point. In later exercises, we’ll practice using them as well.

![Diagram of relationship between entities]

Now, let’s do the same thing for the rest of the outcomes listed above. Remember that we can put aside “pre-surgical”, “for grafts”, and “healthy, normal” to deal with later.

The concept graphs for Mariela’s work with James is now halfway done. When we bring in the treatments, then we will have finished the concept graphs for her treatment plan for now.

We will deal with the treatments the same way we did with the outcomes: each single entity gets its own box, giving us 9 building blocks from the list to work with. AROM and PROM are different entities, so each one gets its own box. “around the edges of saline balloon implant under James’ skin” is an optional modifier for “friction and pétrissage”, so we will put that aside for later, just like we did for outcomes.

The set of nine entities looks like this:
The next step is to connect each of these building blocks to a verb. Remember, the arrow always comes from the action verb, so it will look something like this, with “agent” as the label indicating what is performing the action.

Where we say in conversational English “back, feet, neck, and hand massage relieve pre-surgical anxiety”, we will break that up into four different statements and make a concept graph from each one:
1. “back massage relieves pre-surgical anxiety”
2. “feet massage relieves pre-surgical anxiety”
3. “neck massage relieves pre-surgical anxiety”
4. “hand massage relieves pre-surgical anxiety”

Now put them together with the appropriate action verb, remembering to always draw the arrow from the verb to what performed the action, and to label that arrow “agent”. Once you have done that, the concept graph is almost done.
All that remains is to put the two halves of the graph together, using the action verb as the common element. Putting together

with
we get an unambiguous concept graph of the treatment and outcome and their relationships.

Now let’s do the same for the rest of the treatments and outcomes in the list above.

The rest of the exercises in this series will practice adding details and nuance to the concept graphs we create, in order to better and more faithfully represent our knowledge.

Exercise 4: Creating Knowledge Triple-Stores from the Literature and from Our Own Experience

Estimated time to complete: 1 hour

Learning Objectives:

- Translate a concept graph into a triple-store format and back again
- Appreciate the power of representation of knowledge that these formats provide
- Create concept graphs and triple-stores from literature examples provided, and from your own clinical experience of massage therapy

Introduction

The illustration above is from the final concept graph in Chapter 3. It shows how concept graphs can create a visual representation of the relationships between treatments and outcomes.

This visual format is very effective for communicating with other people about those
treatment-outcome relationships—either with other massage practitioners or members of the healthcare team, or with clients, or with students, or the general public. Concept graphs are effective because they are clear, unambiguous, and easily understood.

A triple-store, or graph, database builds on the power that graph representation provides, and uses it to build up a database or knowledge repository, stored in a computer. The computer and the database designers make use of the graph’s features to quickly build up a repository that can contain many diverse facts, and to explore the relationships among those facts.

To be able to use this computational power, and to quickly build up an information repository, we need to be able to translate back and forth between concept-graph notation and triple-store format. Fortunately, that’s an easy thing to do.

To translate from a concept graph to a triple-store:

1. Identify the three main entities in the concept graph (the square boxes). In the example above, the entities are 1) Swedish massage, 2) reduces, and 3) pain.

2. Although the circles will not be part of the triple-store, they tell us in which order to put the entities. Agent is always first, the action is always second, and effect is always third. So the triple-store from the concept graph above would be:

   (1) Swedish-massage (2) reduces (3) pain

   But since the numbers are always the same, we can leave them out, and the triple-store ends up looking like:

   Swedish-massage reduces pain

   (we put a hyphen in Swedish massage so that the space did not introduce confusion where the first element began and ended.)

To translate from a triple-store to a concept graph, we just reverse the process:

1. From the three entities in the triple-store, identify the agent (1), the action (2), and the effect (3). Using the sample

   Friction breaks-up scar-tissue

   we get friction (agent), breaks-up (action), and scar-tissue (effect)

2. Draw boxes around each entity, and draw the arrows in the correct direction, with a circle indicating agent, and another circle indicating effect.
Exercise 1. Create a concept graph and the corresponding triple-store for each of the statistically-significant outcomes (p < 0.05) in the table below.

Example: The first measure, general well-being, has a p of 0.07. Therefore, it is not statistically significant, and we will skip it. The second measure is anxiety. The post-test measure is higher than the pre-test measure, and as the description explains, a higher score means less anxiety. The p-value for this measure is 0.03; therefore, it is statistically significant, so we will draw a concept graph and write a triple-store showing that massage lowers anxiety.
Exercise 2

Think of some outcomes you have observed consistently over the course of your practice. What information would you want to communicate about those observations to other massage practitioners, and to share in the form of an information repository? For this exercise, don’t worry about statistical significance; just describe your observations in the
form of concept graphs and triple-stores. For example, based on my work with a burn survivor, I might represent

“friction increases scar-tissue-flexibility”

and from my work with PTSD survivors, I might represent

“Swedish-massage reduces insomnia”.

Your experience is unique, and you will have corresponding information to share with others. The concept-graph representation makes sharing that knowledge easy yet clear to other people, while the triple-store format helps in building computer databases and other forms of information and knowledge repositories.

**Exercise 5: Adding Nuance to Our Descriptions, I—Putting “Who” and “What” into the Knowledge Representation**

Estimated time to complete: 1 hour

Learning Objectives:

- To refine our previous techniques of knowledge representation by adding finer-grained details about treatments and outcomes in order to:
  1. Bring the knowledge representation closer to the empirical referents;
  2. More faithfully represent the experiences we wish to share with others.

Introduction

To this point, we’ve practiced two equivalent methods of representing the relationship between treatments and outcomes: concept graphs and triple-stores. In the last part of the previous exercise, you were asked to practice these techniques by making concept graphs and triple-stores from observations you’ve made in your own clinical experience.

Depending on your clinical experience and the knowledge you want to share, you may find that concept graphs like the following:

```
Swedish massage → agent reduces effect pain
```

are too vague and unspecific to communicate your experience. Concepts such as

“Swedish massage” and “pain” cover so much territory that it can be difficult to convey exactly what you have observed to be effective in either of those areas.
Zeroing in on entities at a finer level of analysis can be helpful in communicating specific recommendations; the following concept graph provides more specific guidance than the previous one does.

But sometimes, even more specific information is required, whether it is for teaching a newly-trained massage therapist how to work with a client, advising a client on how to choose a massage therapist trained in a particular specialty, or making recommendations to a primary-care provider what kind of massage to prescribe and for how long. In this exercise and the next one, we will practice adding detail and nuance to our knowledge representations, in order to provide that kind of specific information.

Putting “Who” into Our Knowledge Representations

Touch is a basic need in humans and other animals, so fundamental that we instinctively touch to comfort, to relieve pain, to groom, to communicate, and in many other contexts. These touching, petting, and grooming behaviors have also been observed in many other species as well. This universality of touch indicates that sometimes it does not matter who carries out the touching—the contact with another member of our species is enough to be beneficial.

There are other times, however, that the very person who is performing the touching is an essential part of the benefit that will be provided. A layperson might, with all the best intentions, want to massage someone to relieve the pain in a hot, swollen leg. A trained massage therapist, on the other hand, would recognize the serious risk of a deep venous thrombosis and subsequent pulmonary embolism, and not only would not massage the leg, but would advise the client to get to a primary-care provider or an emergency room immediately. Similarly, a Swedish-massage-trained therapist would refer a client with lymphedema to a therapist trained in one of the specialties of manual lymph drainage, rather than performing Swedish massage on the limb and risking further damage by moving the fluid to a site unprepared to handle it.

So while sometimes, the relationship between treatment and outcome is unaffected by who performs the touching, at other times the person who carries it out is crucial to the outcome, and we need to have a way of representing that in our visual and computer knowledge representations.

The way we deal with that in concept graphs is by introducing an additional entity—the therapist—into the graph. The information in the concept graph below comes from [1].
The relationship “therapist” is drawn to connect the new entity to the entity it is most closely connected to. Since the Vodder-trained therapist is essential for carrying out the Vodder method, that is where the relationship is drawn.

The previous concept graph was an example of where the “who” in the massage was the therapist. Sometimes, though, the person who makes a difference in the treatment outcome is the patient, and in that case, the graph would be drawn to show that fact.

This concept graph represents the findings of [2], in which the authors state that in their study, massage significantly reduced pain for males, but not (the red X in the concept
graph) for females.

Exercise 1:

If you have worked with cancer patients, does your experience agree with what Weinrich and Weinrich are stating about the difference in massage providing pain relief for women and men? How would you draw the concept graph representing your own experience with cancer patients?

Exercise 2:

Can you think of any examples from your experience where either the therapist (because of training or some other reason) or the client (for whatever reason) had an effect on the outcome of the treatment? If you do not have any examples from your own experience, then think of some examples where the training of the therapist or demographic characteristics of the client would make a difference. How would you draw the concept graph to communicate that information?

Putting “What” into Our Knowledge Representations

For our concept graphs and triple-stores, we are always going to focus on the most immediate and fine-grained level of massage possible. That means that we will say “friction” in preference to “Swedish massage”, or “vibration” in preference to “massage” whenever we can. That is because the more specific we can be about the knowledge we communicate, the more benefit the people we want to share the information with can gain from it.

To put things in the bigger picture, it is important to know the relationships among the types of massage. As trained massage therapists, we may know that “friction” is-part-of “Swedish massage”, or that “vibration” is-a-type-of “massage”, but our clients or other healthcare professionals may not know those facts. There is not room in our concept graphs and triple-stores to show all the relationships among massage, especially when we are focusing on only one modality per graph. But behind the scenes of our concept graphs, it is important to know how the larger pieces fit together, and what information can be gained from those relationships among the larger pieces.

For this reason, work is being carried out in taxonomy, or classification, of kinds of massage. Although we won’t represent these classifications in the concept graphs of treatments and outcomes, they underlie the work we are carrying out at this workshop. And these relationships themselves can be represented in other concept graphs elsewhere, just as we can look at anatomy in several ways—at the level of the cell, the tissue, the organ, the system, the body, and the population.

Exercise 3:

At the workshop, there will be a lively debate about the entities that are being represented, and how fine-grained and detailed we need to be in our representation. To
inform that debate, read the attached article [3], and prepare for the discussion by
deciding whether or not this classification is a sufficient foundation for the profession, or
whether it is a good first step that needs to be taken further. If you think it is sufficient,
then be prepared to explain what features of the classification are particularly appropriate
to represent existing knowledge about massage. If you think it needs to be extended, be
prepared to describe what extensions you feel it needs, and why.

References for this exercise:

[1] Härén K, Backman C, Wiberg M. Effect of manual lymph drainage as described by
Vodder on oedema of the hand after fracture of the distal radius: a prospective clinical
study was to evaluate the efficacy of manual lymph drainage, as described by Vodder, in
reducing oedema in the hand after a traumatic injury. During a period of 10 months in
1996-7, a total of 26 consecutive patients with a fracture of the distal radius that was
treated by external fixation were included in the study. Patients were randomised into an
experimental (n = 12) and a control group (n = 14). Treatment started 11 days after
application of the external fixator. All patients had the same conventional treatment
with exercises, movement, oedema control, and education. The experimental group was given
10 treatments of manual lymph drainage in addition. Oedema was measured four times
with the volumeter, and the injured hand was always compared with the uninjured one.
The first measurement was made three days after removal of the external fixation. The
difference in hand volume showed that the experimental group had significantly less
oedema in the injured hand. This result indicates that manual lymph drainage is a useful
method for reducing post-traumatic oedema in the hand.

Nurs Res. 1990 Nov;3(4):140-5. Evaluating the effectiveness of nursing interventions in
decreasing pain is a top priority for clinical research. Unfortunately, most of the research
on cancer pain relief has been limited to treatment studies involving the administration of
analgesics. Research is needed to determine which nonanalgesic methods of pain control
are effective and under what conditions. Consequently, an experimental study was
designed to test the effectiveness of massage as an intervention for cancer pain. Twenty-
eight patients were randomly assigned to a massage or control group. The patients in the
massage group were given a 10-minute massage to the back; the patients in the control
group were visited for 10 minutes. For males, there was a significant decrease in pain
level immediately after the massage. For females, there was not a significant decrease in
pain level immediately after the massage. There were no significant differences between
pain 1 hour and 2 hours after the massage in comparison with the initial pain for males or
females. Massage was shown to be an effective short-term nursing intervention for pain
in males in this sample.

describe massage treatments for musculoskeletal pain. BMC Complement Altern Med. 2006 Jun 23;6:24. BACKGROUND: One of the challenges in conducting research in the field of massage and bodywork is the lack of consistent terminology for describing the treatments given by massage therapists. The objective of this study was to develop a taxonomy to describe what massage therapists actually do when giving a massage to patients with musculoskeletal pain. METHODS: After conducting a review of the massage treatment literature for musculoskeletal pain, a list of candidate techniques was generated for possible inclusion in the taxonomy. This list was modified after discussions with a senior massage therapist educator and seven experienced massage therapists participating in a study of massage for neck pain. RESULTS: The taxonomy was conceptualized as a three level classification system, principal goals of treatment, styles, and techniques. Four categories described the principal goal of treatment (i.e., relaxation massage, clinical massage, movement re-education and energy work). Each principal goal of treatment could be met using a number of different styles, with each style consisting of a number of specific techniques. A total of 36 distinct techniques were identified and described, many of which could be included in multiple styles. CONCLUSION: A new classification system is presented whereby practitioners using different styles of massage can describe the techniques they employ using consistent terminology. This system could help facilitate standardized reporting of massage interventions.

Exercise 6: Adding Nuance to Our Descriptions, II—Putting “When”, “Where”, and “How” into the Knowledge Representation

Estimated time to complete: 1 hour

Learning Objectives:

- To continue to refine our previous techniques of knowledge representation by adding finer-grained details about treatments and outcomes in order to:
  1. Bring the knowledge representation closer to the empirical referents;
  2. More faithfully represent the experiences we wish to share with others.

Introduction

The last exercise provided practice in adding detail and nuance to our massage knowledge representations. It provided a way to describe “who” performed the massage, in those cases where it made a difference, and provided an introduction to the larger “what” issues, about the relationships among different kinds of massage. It also pointed out that, for clarity, all the concept graphs should depict entities at the most specific level of detail possible—“friction” instead of “massage”, and “cancer pain” rather than “pain”, for example—in order to help both the sharer of the information and the people it is shared with understand the communication as clearly as possible.

This exercise will build on that foundation by adding “how”, “when”, and “where” to our
knowledge representations. After you have completed this exercise, you will be able to clearly represent descriptions with as much nuance as the following (from article [1]) in a manner which is faithful to its meaning:

The present study was designed to have parents administer the massage therapy so that the children could receive the treatment on a daily basis at no cost…The present study followed the same massage therapy and assessment procedures as the Field et al., (1997) study, except that the children’s parents were trained by massage therapists to administer the massages on a nightly basis before the children’s bedtime, rather than therapists massaging the children twice weekly during class time. More frequent massages by a familiar person (the parent) were expected to yield greater improvement in the child’s sleep and preschool behaviors autism (Tsai, 1992). (who, what, when)

The treatment and outcomes are entities that will appear in this graph. Escalona and her team report that massage following the Field 1997 protocol administered by parents nightly before bedtime resulted in 1) more on-task behavior and 2) fewer sleep problems. Two outcomes from the same treatment can be represented in the same concept graph in the following way:

The “who” administering the massage is important in this case for two reasons: 1) by not having to pay for massages, the child could receive them every day, and 2) the person administering the massage was familiar to the child, which is an important factor in the comfort of many autistic children. Because of the meaningfulness of who administered the massage, an entity for “who” is needed in the concept graph. The parents have a direct effect on the massage, so the relationship connects the parent entity and the treatment entity.
The children are also important to represent as an entity, because we do not yet have enough information to generalize about the findings of this study. We can only say that this result has been demonstrated in autistic children, so the “client” entity is also a necessary part of this concept graph.

Finally, “when” the massage is administered is significant, because for many autistic children, a familiar routine helps reassure and soothe them. Having a massage every night right before their bedtime becomes a ritual between them and their parents, the meaning of which may not be immediately obvious to observers, but which may show up in the treatment outcome. In this case, when the massage is administered is important enough to indicate in the concept graph. The regularity of having it administered daily was emphasized by the article, which is one of the reasons the parents were chosen to perform the massage.

Timing of massage is usually referred to as a combination of frequency (how often the massage occurs in a given period of time) and duration (how long the massage lasts). Here, the frequency of the massage during the study was every night for a month, and the duration was 15 minutes per massage. In this study, because of the importance of bedtime, you might also decide that time of day: bedtime was important enough to make into an entity. That would also be a reasonable decision, although duration and frequency are going to tend to be much more useful parameters for massage knowledge representation. Very few massages actually depend on time of day, so there will be much less information available to compare.
The descriptions of “when” were attached to the massage entity in this diagram, although sometimes, when you are looking at how long- or short-term an outcome lasts, you may attach a “when” to the outcome as well. For example, one of my clients living PTSD from a civil war in his country began to experience bouts of insomnia when his wife died. We found that we could never really cure his insomnia, but that 30 minutes of deep-tissue massage once a week reduced his insomnia to where he could get 3 nights’ worth of good sleep each week.

Exercise 1:

Draw the concept graph for the situation described above: 30 minutes (duration) once a week (frequency) of deep-tissue massage reduced insomnia for 3 nights (duration).

Adding “where” and “how” is similar—the actual place where the massage occurs (the intensive-care unit, the client’s home, the finish line at a sporting event) and how the massage is modified and carried out (superficial, deep, patient remains clothed out of modesty, any changes to how it is done) are entities. Then they are connected to the massage with a circle indicating that the relationship is “location” or “modification”.

Exercise 2:

Draw the concept graph for the following excerpt from the abstract for [2]. Make sure to
include in your graph that massage promotes sleep in critically ill patients (client) in the intensive-care unit (location).

Massage, music therapy, and therapeutic touch are safe for critically ill patients and should be routinely applied by ICU nurses who have received training on how to administer these specialized interventions…In summary, we recommend that ICU nurses implement music therapy, environmental interventions, therapeutic touch, and relaxing massage to promote sleep in critically ill patients. These interventions are safe and may improve patient sleep, although randomized controlled trials are needed to test their efficacy. Aromatherapy and alternative sedatives require further investigation to determine their safety and efficacy.

Exercise 3:

In [3], Myers and her team state that “massage, modified appropriately, offers potential beneficial effects for cancer patients”. From what you know about cancer symptoms and about indications and contraindications of massage, visualize a scenario where you might be treating a cancer patient, or draw on your experiences of having done so. What are the benefits of massage for people living with cancer, and what might be appropriate modifications to the massage, given the person’s symptoms? Draw a concept graph to explain the relationships among the kind of massage you would (or did) use, the outcome for the patient, and the way the massage was modified to accommodate the physical condition of the patient (modification).

Massage therapy is increasingly available as a supportive therapy to patients in medical centers providing cancer treatment. This article provides an overview of the evidence base relevant to the use of massage with the intended goal of alleviating symptoms and side effects experienced by cancer patients. Collectively, the available data support the view that massage, modified appropriately, offers potential beneficial effects for cancer patients in terms of reducing anxiety and pain and other symptoms. Replication of preliminary studies with larger, more homogeneous patient samples and rigorous study designs will help to clarify which massage modalities have the most potential benefit for which patients before, during, and after specific types of cancer treatment.

References for this exercise:


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Exercise 7: Open-World vs. Closed World—What Do We Do with Incomplete Knowledge?

Estimated time to complete: 1 hour

Learning Objectives:

- Be able to explain the difference between the open-world assumption and the closed-world assumption, and to give an example of each.
- Be able to apply the open-world assumption in the context of clinical massage knowledge.

Introduction

“There are more things in heaven and earth, Horatio / Than are dreamt of in your philosophy.” Hamlet, Act 1, scene 5, 159–167, by William Shakespeare.

Almost every child in this culture has heard the story of the blind men and the elephant. Each one observes the elephant by touching the part closest to him, and makes his own conclusions about what the entire elephant is like. The one closest to the tail says the elephant is like a rope, the one closest to the side says it is like a wall, the one closest to the trunk says it is like a snake, and so forth. The story illustrates how we can sometimes be misled by having only part of the information available to us. But in a world where there is an information glut surrounding us, and massage all by itself is bigger than any one of us can fully know, how can we communicate what we know when we have only partial information?

If we know what we can do about the limits of our knowledge, we can, unlike the men in the story, avoid falling into some of the more obvious traps. One of the most basic questions in knowledge representation is what do we do with information that is not in the system. We can proceed with an open-world assumption, or with a closed-world assumption. To do so, we have to distinguish between statements we know to be true, statements we know to be false, and statements about which we do not have any information.

Let’s take an example of each.

1. A statement we know to be true:

Massage has been demonstrated to improve self-reported quality of life in people living with HIV/AIDS. [1]

2. A statement we know to be false:

Massage is indicated for deep venous thrombosis in the legs.
3. A statement about which we have no information one way or the other.

Regular massage decreases stereotypic distress behavior (pacing, compulsive grooming, and so forth) in captive large carnivores, such as bears in zoos.

Statement 3 may sound highly plausible to us, and in fact, it may be very likely to be true. But no one has carried out that study and published the results, so as much as we suspect that it could be true, we don’t have enough information to be sure that it is.

Exercise:

Come up with one of each kind of statement, based on your own experience: something you consider you have seen enough to know it is true, something you have seen enough to know that it is false, and something about which you are not yet sure. It is easy to see how we would draw the concept graphs for Statements 1 and 2 (remember, we put a big red X through the graph at the appropriate place to represent NOT). But it is not so obvious to us what we should do about Statement 3, which is where the open-world and closed-world assumptions come in.

In very general terms, the closed-world assumption says that any statement that we do not definitely know to be true must be false. So, if we are constructing our knowledge repository under the closed-world assumption, since we do not know that 3 is true, we consider it false for the purposes of the knowledge repository.

This can easily be dismissed as binary thinking—something is either known to be true, or else it is false—and yet, it does have useful applications in some situations. Imagine going to the airport on the way to the conference in Seattle and having the ticket clerk say “You are not in our system, but it’s possible that you could have a ticket anyway. I just don’t know.” That’s not a very useful way to deal with airplane tickets. So the airline’s database operates under a closed-world system: if someone is in the system, we know that it is true that they have a ticket, and if they are not in the system, then they don’t have a ticket. Most of the time, barring mistakes, the closed-world assumption works very well for something like a ticketing system database.

But for something as big and rich and diverse as life, or even a part of life such as massage, the closed-world assumption is going to shut out a lot of possibilities. What if someone decides to do the carnivore study later, and finds out that it really is true that bears in a zoo respond to regular massage by reducing distress behaviors? Then that means that we have prematurely declared the results to be false, and now some of the information in our knowledge repository is wrong as a result.

The way we avoid this trap is to operate under an open-world assumption. Under such a system, information that is in the repository is known to be true, and we have not yet formed any decisions about information not in the repository. This is different from the closed-world assumption, which declares all that information not in the repository to be false. Under the open-world assumption, we are saying that—like the men in the story—we can only make statements of fact about the part of knowledge that we do have,
and we do not claim to have complete knowledge about the subject, enough to declare large parts of it false. We will wait until more information is available, and then we will either add that knowledge to the repository as true, or—if it is false—we will add its opposite to the repository as true. In either case, information is added as it is discovered, not declared to be false ahead of the fact.

Example:

We have a very trivial information repository, with only one fact in it: *Cats are mammals.* We want to know whether dogs are mammals, too.

If our information repository operates under the closed-world assumption, the answer is *False: dogs are not mammals (simply because that fact is not in there).*

If our information repository operates under the open-world assumption, the answer is *Unknown.* We can always later add the fact that dogs are mammals, and after we do so, then it will answer *True: dogs are mammals* to the question at that time.

Exercise

Name a situation where a closed-world system would be appropriate in context. It would be a situation where definite knowledge is always required one way or the other, like the airline ticketing system described above, or a store’s inventory database, or something like that. In such a situation, either it must be true that something is in the database, or else it is not part of it.

Describe a situation where, because knowledge about the topic is incomplete, an open-world information system would be more appropriate.

In preparation for the meeting in Seattle, think about what knowledge you have that should be put in the information repository. Statements like 1 above clearly belong in, as they are known to be true. Statements like 2 above do not belong in the repository, although their opposites do, as they are known to be false. So it is true that massage is contraindicated for deep venous thromboses in the legs, and because that knowledge is true it belongs in the repository.

If you have information about which you’re uncertain, it should not go in the information repository, because we do not know it to be true. But, because we are operating under the open-world assumption, it is not automatically assumed to be false, either. Statements like 3 above can wait until the time is right to be entered into the knowledge repository—there is no danger, given the open-world assumption, that they will prematurely be declared false.

References

Exercise 8: When Worldviews Collide—How Do We Reconcile Conflicting Interpretations of Evidence?

Estimated time to complete: 1 hour

Learning Objectives:

• Be able to explain the principle of non-contradiction, and to give an example

• List some techniques for resolving apparent contradictions in knowledge representation

• Be able to apply those techniques in the context of clinical massage knowledge

Introduction

Do I contradict myself? Very well, then, I contradict myself; (I am large—I contain multitudes.) "Song of Myself", Walt Whitman

In classical logic, it is a fundamental principle that two contradictory things cannot both be simultaneously true. Someone cannot be both dead and alive, for example. Given the meaning of “not”, it is certainly a reasonable approach to understanding the nature of what it means to be “true” or “false” (not-true). Yet, at the same time, if we observe what goes on in the world around us, it does not take too long to notice that seeming contradictions do exist. How do we reconcile these two apparently contradictory facts, and how do we handle possible contradictory knowledge that arises in the context of massage when sharing information with each other?

One possibility, of course, is that one or both of the people making the contradictory statements is wrong about what they know. While that possibility cannot ever be totally ruled out, due to the fact that we humans are fallible, we are not going to start with that as the most likely answer to the puzzle. There are several other possibilities for what could be creating the apparent contradiction, and we’ll begin with those. Only after ruling out every possible situational explanation to account for the contradiction will we then turn to possible human error as a potential answer.

One client that I worked on for a long time, and who has given his full permission to share the details of his case, was involved in an extremely violent explosion in his early 20s. The bottom part of his face was almost destroyed, and he had extensive shrapnel injuries to his hands and arms as well.

Two of the aspects that he reported caused him the most distress and had the worst effect on his quality of life, were the tightness of the scar tissue in what was left of his jaw joint, and the severe contractures of the scar tissue in his left hand, which greatly restricted movement. Together, we developed a treatment plan to try to help mobilize the scar tissue in both areas, in order to regain as much motion as possible.
If I were to report on the results of our work together, I would have 2 results that I could represent as a conceptual graph or as a triple-store. If I were reporting the results on his jaw, I would say:

**Massage helps-mobilize scar-tissue**

and if I were reporting the results on his arm, I would say:

**Massage does-not-help-mobilize scar-tissue**

Here, we have an apparent contradiction: I am saying that both a statement and its opposite are true at the same time. Or, to put it another way, I am saying that the first statement is simultaneously true and false. Clearly, I am violating the principle of contradiction, which means that the foundation of the knowledge repository will be compromised as a result—an outcome that we would like to avoid.

Yet, we absolutely have to go where the empirical (observable) facts take us—we’re not going to deny what we’ve observed in the clinic just for the sake of an abstract principle. There is a famous story about Plato, the ancient Greek philosopher, in which he and other philosophers were arguing about how many teeth a horse must have. One philosopher had the idea that because horses have long jaws, they must have many, many teeth. Another suggested that the horse must have few teeth. They argued over their different numbers, until someone suggested they find a horse and simply count how many teeth it has. They were shocked at the suggestion, because they thought the world of ideas was far superior than the practical world. We’re going to do the opposite of what Plato and the other philosophers did in this example—we’re going to acknowledge what we’ve seen in the practical area of the clinic and try to understand it on its own terms, rather than forcing it to fit some theoretical concept.

So we have two statements, both backed up by empirical data from the clinic, and which apparently contradict each other. Let’s see what we can do to resolve the contradiction, without denying the actual observations that led up to it.

First of all, we would want to make sure that we are talking about the same thing. For example, we might say that massage is indicated for lymphedema of the extremities, and massage is contraindicated for lymphedema of the extremities. Seemingly contradictory, these statements can be refined somewhat to remove the contradiction. Here, the use of the term “massage” is too broad and not specific enough. Swedish massage is-a-kind-of massage, and manual-lymph-drainage is-a-kind-of massage. If we substitute them in each statement respectively, we get two statements which are no longer contradictory:

**Manual-lymph-drainage is-indicated-for lymphedema-of-the-extremities**

and

**Swedish-massage is-contraindicated-for lymphedema-of-the-extremities.**
What looked like a contradiction really isn’t, because when massage is analyzed to the correct level of specificity, it becomes clear that we are talking about two different, although related, treatments. Sometimes we will find that when think we are contradicting each other, being clearer on our terminology is all it takes to resolve the differences in the statements.

Other times, it’s not a question of being more specific, but rather, a question of timing. The apparent contradiction between

Massage is-safe-for patients-with-deep-venous-thromboses

and

Massage is-unsafe-for patients-with-deep-venous-thromboses

can be resolved by adding information about the timing;

Massage is-safe-for patients-with-deep-venous-thromboses (after the patient has been treated for the thromboses, the clots are cleared up, and the condition is managed to where the patient’s blood-clotting time is in the therapeutic range)

and

Massage is-unsafe-for patients-with-deep-venous-thromboses (when the patient has acute or untreated blood clots).

So although the first set of statements seem contradictory, they really are not, because we’re not saying that they’re true and false at the same time. They are each true and false at different times, and so they are both faithful to the empirical data and to the principle of contradiction.

Exercise:

By applying the techniques practiced in earlier exercises, come up with 2 or three example sets of statements about massage that appear contradictory. Provide details about who, what, when, where, how, or other aspects that resolve the contradictions. For example, we saw an example in an earlier exercise of a study that found:

Massage relieves cancer-pain

and

Massage does-not-relieve cancer-pain

The contradiction is, of course, resolved by adding “in men” to the first statement, and “in women” to the second statement. In that way, the two statements no longer contradict each other, and they accurately reflect what Weinrich and Weinrich report they observed in their study.

Finally, individual variation must always be taken into account. Many of my refugee patients with chronic PTSD cannot stand the sound of the air ambulance helicopter
landing on the hospital landing pad, because it sounds too much like the aircraft in the
wars they escaped from. Yet one of my patients really likes the sound, because it reminds
him of how, when things looked bad on the battlefield, air support would arrive to
reinforce them. If I make the general statement that refugees with PTSD don’t like the
sound of helicopters, I am representing the experience of most of the patients I see, but I
am not being faithful to that one man’s experience.

When we make a general statement, we must always be aware that individual variation
can differ, and even be the opposite of what the statement says. Something like that may
account for the difference between the men and the women in Weinrich’s study, because
many of the rest of us have observed women for whom massage did indeed provide relief
from cancer pain. We are not assuming that Weinrich necessarily made an error in the
study, but that perhaps there is something different about their group of patients that has
not been accounted for. Similarly, my client for whom friction aided the mobilization of
scar tissue in his jaw, but not his arm—he may have had something else going on as well,
or the sheer amount of scar tissue was more than many therapists ever see, or some other
explanation. Many of the rest of us have had success with scar tissue in the arm, so it
would be too broadly general to say, from my one case study, that in general friction was
ineffective on scar tissue in the arm.

The important points of handling contradictory knowledge are:

- Try to find aspects of the statements that can be made as specific as possible, in
  order to see if that resolves the contradiction;

- Examine the statements to see if they are overly generalized from one individual
  or one group of individuals to people in general;

- If the contradiction cannot be resolved, note both statements, with as much
  information as possible, to be decided later when more information is available.

In this way, resolving contradictory information is not about making someone right and
someone else wrong—it is, rather, about gathering enough information to make it as clear
as possible for others to share the information and learn from it.

References


Exercise 9: Wrap-up, Summary, and Look-Ahead to the Meeting

Now that you’ve worked your way through the exercises in this series, it’s time to sum up
what you’ve accomplished and how it ties into the workshop in Seattle.

The purpose of the exercises was to provide you with a tool for the World Café
discussions: by agreeing to some conventions for drawing concept graphs, you’re able to
represent and communicate knowledge clearly and unambiguously to other people, and,
in turn, benefit from the knowledge they have to share. Using triple-stores, a text format that is equivalent to the visual conceptual graphs, provides a method to gather the volume of information held in our participant pool and store it in some type of a computerized information repository. These cover important lines of communication both sharing information with other people and storing it for future use by others who come after us.

You’ve done a great deal—you’ve learned how to represent different aspects of knowledge appropriate to massage, how to represent the opposite of statements, how to describe finer aspects (such as who, how, when), what to do with incomplete knowledge, and how to handle conflicting interpretations of evidence. That is a lot of ground to have covered, and you should rightfully feel a sense of accomplishment. We expect that will be even more reinforced by the application of these techniques to the quantity of massage and educational experience in the room at this workshop.

You may also find that you want to express knowledge in ways that we haven’t covered in these exercises. We definitely want that feedback—if you push the limits of what we’re trying to achieve, then we need to find ways to expand those limits to fit the knowledge you bring to the process. All together, we have the potential to build something great, something that is bigger than any one person can achieve alone.

Exercise:

Organize what knowledge you want to share at the workshop in Seattle. In your clinical and educational experience, you have developed a great deal of expertise to share with your colleagues, who will also be sharing theirs with you. Come to the workshop with a clear idea of what you want to share from your experience, and what you hope to gain from others.

We expect a great deal of lively discussion, information sharing, and the development of a critical mass of knowledge to inform a document that will be presented to the community for feedback. Above all, we hope that this process will be productive, intellectually stimulating, and fun for you!
APPENDIX C - BPC POWER POINT PRESENTATIONS FROM SYMPOSIUM
Best Practices Symposium  
May 11-12, 2010  
Seattle, Washington

Welcome

- To Seattle  
- To our World Café  
- To yet another seminal event sponsored by the Massage Therapy Foundation for the professions of therapeutic massage and bodywork  
- Thank you for joining us and participating in this project.

Who is here?

- Experienced clinicians  
- Experienced researchers  
- Experienced educators  
- Your Café hosts  
  - John Balletto, LMT, CKTP  
  - Keith Eric Grant, PhD, LMT  
  - Donella Gowan-Moody, B.A. (Hons), R.M.T, M.Sc (Candidate)  
  - Diana Kincaid, LMP  
  - Ravensara Travillian, PhD, LMP

Prior to and early in the 1990s...initiatives of the AMTA, NCBTMB and ABMP included the development of
- Codes of Ethics:
  - summarizing the general standards and principles of acceptable, ethical and professional behavior  
  - Grievance Committee established to handle infractions to the AMTA Code of Ethics  
  - A Code of Conduct (Behavioral Guidelines) was also created to further define the Code of Ethics, to assist massage therapists in managing themselves

Our path...

- Standards of Practice (1996)  
  - were created to assist in creating and maintaining a professional, successful and and safe massage therapy environment and business practices  
- Standards of Care (1997)  
  - The next piece...and still a missing piece...  
    - Address the fundamental decision making processes of a professional practitioner involved in client/patient care from intake to conclusion of care. These standards are commonly referred to as "best practices." Their value lies in the simplicity of design, clarity of thought thoroughness of research and integrity of their review process and success of their outcomes.

Our path...

- This effort continued until 2002 when the decision was made to discontinue this project  
- Project was brought to the Massage Therapy Foundation Board of Trustees for consideration in 2005  
- Project adopted by the Board of Trustees and was launched in 2006
Our plan...

- Research other processes
- Identify needs of the profession
  - What tangible information do we have?
    - In the literature
    - In the education of practitioners
  - What intangible information do we have?
    - Clinical experience of practitioners
    - Client/patient preferences
  - How can we marry the two?

Our principles...

- Inclusion
  - All facets of the professional community
- Consensus
  - We must find what is common and universally agreed
- Transparency
  - No hidden or political agenda; process always open for public and professional view

Our principles...

- Respect
  - The diversity within the profession
  - The variety of philosophy the profession embraces
- Non-attachment
  - Encourage and welcome peer-review and public comment

Our principles...

- Credibility
  - Based in fact and/or in the collective wisdom of the profession
- Usability
  - Guidelines need to be universally accepted and easily utilized by the profession at large.

Our process...

- World Café Model
  - Engages experts in dialogue to address and explore questions that matter
  - Encourages universal contributions
  - Allows diverse perspectives to connect, intersect and cross-pollinate
  - Allows harvesting and sharing collective discoveries
  - Listen together for patterns, insights, new questions

World Café Model

- Uses a series of discussions at small tables
- Table hosts; participants are table guests
- Progression between tables, at regular intervals, cross-pollinates ideas between tables
- Conversations are recorded to preserve accuracy
- Each table has a paper cover and crayons which helps you create a visual or diagram of your ideas

1/13/15  Best Practices Symposium
Because questions are intrinsically related to action, they spark and direct attention, perception, energy and effort, and so are at the heart of the evolving forms that our lives assume... Creativity requires asking genuine questions, those to which an answer is not already known. Questions function as open-handed invitations to creativity, calling forth that which doesn’t yet exist.

The Art of the Question
Marilee Goldberg

Let’s begin...

Best Practices Guidelines: The Knowledge Representation Process
Ravensara S. Travillian, PhD, LMP
European Bioinformatics Institute
11 May 2010

Two-phase process
- Part 1: What we achieve at this meeting
- Part 2: What comes next: follow-up

Part 1: The meeting
- What knowledge do we have?
- What is our knowledge based on?
- How do we know what we know?

Part 1: The meeting
- Epistemology: the branch of philosophy that studies what we know and how we know it: in our case, regarding massage
- Classical definition of knowledge: Justified true belief (JTB)
  - We believe it (telling the truth)
  - It is factually true (matches natural-world observations)
  - We gained the knowledge through a process with integrity (not just a lucky guess)
We encourage you to…

- Doodle concept graphs on your tablecloth
- Doodle triple-stores on your tablecloth
  
  **Swedish-massage reduces pain**

Our process...

- Each discussion round will last for 45 minutes
  - There will be three (3) rounds
- There will be a time keeper who will let us know when there are 5 minutes and then 2 minutes left in a discussion round
- The table host engages in the conversation as a participant and a steward but does not facilitate the discussion

Our process...

- At the conclusion of your discussion we ask that you move to a different table for the next round of conversations
  - Please join a table with participants with whom you have not been in conversation previously

Our process...

- When you arrive at a new table, the host will
  - Ask you to introduce yourselves
  - Share the essence of the previous conversation(s)
- Please add ideas and connections from your previous conversation(s)
- Please listen carefully so that we can build on each conversation

Our process...

- At the end of the third round, we will gather in a whole-group discussion where we
  - Reflect on what we have learned
  - Reflect on what has special heart and meaning
  - Share new insights and ideas
Because questions are intrinsically related to action, they spark and direct attention, perception, energy and effort, and so are at the heart of the evolving forms that our lives assume... Creativity requires asking genuine questions, those to which an answer is not already known. Questions function as open-handed invitations to creativity, calling forth that which doesn’t yet exist.

The Art of the Question
Marilee Goldberg

Best Practices Guidelines:
The Knowledge Representation Process
Ravensara S. Travillian, PhD, LMP
European Bioinformatics Institute
11 May 2010

Two-phase process
• Part 1: What we achieve at this meeting
• Part 2: What comes next: follow-up

Part 1: The meeting
• What knowledge do we have?
• What is our knowledge based on?
• How do we know what we know?

Part 1: The meeting
• Epistemology: the branch of philosophy that studies what we know and how we know it: in our case, regarding massage
• Classical definition of knowledge: Justified true belief (JTB)
  We believe it (telling the truth)
  It is factually true (matches natural-world observations)
  We gained the knowledge through a process with integrity (not just a lucky guess)
Propositions

Truths
Knowledge
Beliefs

Part 1: The meeting
- So what does all this have to do with you?
- Should be totally transparent
- My job: provide the tools and knowledge infrastructure to let you focus on your job
- Your job: use the World Café format to
  —Share what you know
  —Learn from others
  —Have fun!

Part 2: Follow-up
- Process the information that came out of the meeting
- Circulate for feedback: small group at first, to make sure no bugs in our process
- Then to the community for reaction, evaluation, and response
- Incorporate feedback
- Finally, submit them to professional repository for public access

Part 2: Follow-up
- Why we expect this to have better chance of success than previous efforts
- Bottom-up approach rather than top-down: we expect community investment and commitment
- Integrity of process (“justified” part of JTB)
  —based on your clinical observations
  —transparency
  —accountability/provenance of info

Products of this meeting
- Documents with recommendations from this meeting for circulation and repository: what does the community consider BPG?
- Extra info that doesn’t make it into guidelines: can it form open-access web site for informational purposes?
- Reusable process, methods, and tools for the next generation of best-practices guidelines

Questions? Ideas? Comments?
Massage Therapy Foundation Best Practices Symposium
Seattle, WA
May 11-12th, 2010

Outline
- Offering context
- Proposing questions
- Welcoming dialogue to follow

Offering Context

Questions as Context
- Focus - for content
- Support – to shape the process

The Quest
If best practice guidelines are the answer, what is the question?

- What do we not know, that if we did know, would make the most difference to this field?
<table>
<thead>
<tr>
<th>Question</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do we not have, that if we did have, could transform the future of Massage Therapy?</td>
<td>For what do you wish you had guidance?</td>
</tr>
<tr>
<td>For what do you wish others in our community of practice had guidance?</td>
<td>What could the guidance look like?</td>
</tr>
<tr>
<td>What do you need for evidence to believe that the guidance is useful?</td>
<td>How will you know that the guidance is valuable?</td>
</tr>
</tbody>
</table>
Seeing Differently

It’s never enough to just tell people about some new insight. Rather, you have to get them to experience it in a way that evokes its power and possibility. Instead of pouring knowledge into people’s heads, you need to help them grind a new set of eyeglasses so they can see the world in a new way. – John Seely Brown,

Seeing Differently: Insights on Innovation

The Stress Management Conversation

Why Stress Management?

- One of the most widely claimed and reported effects of massage therapy.
- Stress in one form or another is believed to be at the root of most, if not all, disease processes.
- Stress management is a simple and well understood topic.
- Stress management is a complex and poorly understood topic.

Challenges in Discussing Stress Management

- Many frames of reference from which to discuss what “stress” is:
  - eustress vs distress, stressors vs. the “stress response”
- Many contexts from which to frame stress:
  - physical stress, psychological stress, emotional stress
- Many ways to measure stress and its effects:
  - reported by patient/client, biological markers, effects of stress (disease processes)

- Challenges in Discussing Stress Management

- Many associated symptoms and effects of stress:
  - anxiety, depression, insomnia, headaches
- As a result, it may be easy to be drawn into circular philosophical debates around stress.
- Our challenge is to engage is open, exploratory conversation while keeping our goal clearly in focus.
Questions That Matter

- From your experience and reading, what effects does massage therapy have on stress?
- What guidance would be helpful to a massage therapist who has a goal to help his/her clients reduce the effect of stress on their health?

Questions That Matter

- What is the role of massage therapy in stress management?
  - Reduce stressors?
  - Improve the clients ability to "cope" with stress?
  - Decrease the effects of stress on the body? - on the mind?
  - Others?

Questions That Matter

- What role does context play in the clinical encounter where the goal is stress reduction?
- What assumptions exist related to the effect of massage therapy on stress that should be challenged?

Questions That Matter

- What considerations related to the history and intake of a client with stress reduction are important?
- What are the red flags or contraindications in the context of massage therapy for stress management?

Questions That Matter

- What are the considerations related to co-management and referral of patients/clients who are managing stress?
- What are the additional resources and tools that a massage therapist should use to help a client manage stress?

Questions That Matter

- Stress is often grouped with other symptoms: anxiety, depression, insomnia, muscle tension.
- Are there others?
- What effect do these symptoms and conditions have on the approach a therapist takes?
**Questions That Matter**

- What do we know about mechanisms of action related to massage therapy and stress management?
- What should a massage therapist understand about mechanism of action?

- What do we still need to learn about the role of massage therapy in stress management?
- What is the next level of thinking we need to address to reach our goal?

**Some General Guidelines**

- Notice patterns, themes, deeper questions.
- We are building and each contributing to a “knowledge web.”
- We are seeking a balance of safety and adventure.
- Trust is critical to the process.
- Relax, enjoy - No formal reporting from groups.

**Please Feel Welcome**

- Casual conversation often results in more progress and innovative solutions than formal meetings and conferences.
- Often the more formal and structured the context, the less meaningful and more constrained the conversations become.
- Informal “hallway” meetings are often the most meaningful.
- The World Café model seeks to tap into that ideal safe, comfortable context.

**Café Etiquette**

1. Contribute your thinking and experience.
2. Listen to understand.
3. Connect ideas.
4. Listen together for patterns, insights and deeper questions.

Start talking and get to work. Relevant conversation IS action.

**Best Practices Symposium**

11-12 May 2010
Seattle, WA
LBP – A Serious Social Cost

- Low back pain (LBP) is nearly ubiquitous. In industrial nations (Hulen, 2008)
  - Lifetime incidence ranges from 60 to 80%.
  - Annual incidence of severe low back pain has been reported as 10 to 12%.
  - LBP is the second most frequent reason to seek medical attention in general in the U.S.
- LBP costs more than 90 billion dollars per year in the U.S.

Classifications of LBP

- Acute lasts less than 6 weeks
- Subacute persists for 6 to 12 weeks
- LBP is chronic after 12 weeks.
- The majority of LBP episodes resolve in less than 12 weeks.
- Classically, only 5 to 10% are thought to progress to chronic LBP

Limited Studies of Massage Effectiveness

- Ernst (1999) found four randomized clinical trials in which massage was tested as a monotherapy for LBP.
  - All had major methodological flaws.
  - Effectiveness inconclusive
- Cherkin (2001) compared massage for LBP to acupuncture and education/self-care
  - 78 massage patients; 10 weeks Duration; follow-ups at 4, 10, and 52 weeks.
  - Conclusion of massage effectiveness.

The Fall of the PSB Model

- The problem with postural-structural-biomechanical (PSB) model (Lederman, 2010)
  - PSB asymmetries and imperfections are normal variations.
  - Neuromuscular and motor control variations are also normal.
  - The body has surplus capacity to tolerate such variation without loss to normal function or development of symptomatic conditions.
  - Pathomechanics do not determine symptomatology.

Neuromatrix Theory

- Melzack (2001) from research on phantom limb pain.
- Pain is produced by the output of a widely distributed neural network in the brain rather than directly by sensory input evoked by injury, inflammation, or other pathology.
- The neuromatrix, which is genetically determined and modified by sensory experience, is the primary mechanism that generates the neural pattern that produces pain.
- The output pattern is determined by multiple influences, of which the somatic sensory input is only a part, that converge on the neuromatrix.
- In other words, the body has a state memory which is important to how the body processes and interprets sensory input.

Returning to Questions

- What else do we know from experience?
- What do we need as proof of usefulness?
- What guidance would we like to have?
- What guidance would we wish others to have?
- What don’t we know that would change massage practice for LBP?
- What might we need to unlearn?
APPENDIX D - PRELIMINARY CODEBOOK

• Massage therapy definition
  o Science of massage /Clinical massage
  o Art of massage/Wholistic massage
  o Massage as healthcare
  o Massage as part of service industry
  o Blending (art and science/clinical and wholistic)
  o Massage in Context
  o Treatment itself
    ▪ Structural
    ▪ Neuromuscular
    ▪ Psychogenic/emotional
    ▪ Blend of structural, neuromuscular, psychogenic/emotional
  o Missing pieces
    ▪ Therapeutic relationship
    ▪ Mechanisms
    ▪ Assessment instruments
    ▪ Competencies
    ▪ Population/community health
    ▪ Red-flags
    ▪ Electronic health records

• Framework for massage therapy practice
  o Apply definition
  o Assessment
    ▪ Referring to other healthcare practitioners
    ▪ Critical thinking
    ▪ Palpation
    ▪ Biomedical testing (BP/Pulse/etc)
    ▪ Discussion
    ▪ Improving assessment skills
    ▪ “Meeting client where they are at”
    ▪ Mastery of assessment
      ▪ Intuitive in nature
    ▪ Learned skill
    ▪ Tracking change
    ▪ Re-assessment
    ▪ Able to identify contraindication/red flags
    ▪ Safety
  o Treatment
Health Education
- Coping with stress
- Problem focused
- Body awareness
- Lifestyle education
- Client engagement
- Self-care
  - Movement education
  - Breathing exercises
- Exercise
- Nutrition

Essential elements
- Create a healing environment
- Caring
  - Listening
  - Nurturing
  - Attention
- Time
- Patient choice
- Communication
- Professional image in health care

Outcomes
- Patient satisfaction
- Influenced by
  - Therapeutic relationship
    - Attachment
  - Therapist education
    - Experiential learning
  - Environment/context

Plan of Care
- No attachment to outcomes
- Client centered/Client goals
- Scope of Practice
- Documentation
- Need for reporting guidelines
- Need for protocol

Effects of massage therapy
- Positive effects
  - Amelioration of anxiety
  - Amelioration of depression
  - Decrease stress
  - Decrease pain
  - Improve sleep
  - Increase self-efficacy
  - Coping
  - Relaxation
- Entrainment
- Improved quality of life
  - Negative effects
    - Massage assumptions
    - Risk of harm
    - Adverse events
- Contraindication and safety

- Stress
  - Definition
    - Mechanical stress
    - Psychosocial stress
    - Stress Conditions
      - Anxiety
      - Depression
      - High Blood pressure
      - Stress
      - back pain
      - Sleep
      - Breathing problems
  - Symptoms of stress
  - Effect of stress
  - Reaction to stress
  - Causes
  - Assessment
    - Client centered self-assessment
      - What do they feel physically
      - What do they feel emotionally
    - Therapist assessment
      - Visual assessment
      - Palpation
      - Clinical impression
      - Potential assessment questions
      - Pre/post assessment
    - Measurement
    - Re-assessment
  - Treatment
    - Meet client where they are “at”
      - Pacing
      - leading
    - Goals of treatment for stress
    - Parameters of care
    - Client centered
  - Health education
    - Stress management
- Education about self-care
- Coping
  - Problem focused coping
  - Emotion focused coping
- Awareness/body awareness
  - Essential elements
    - Contraindications/Client safety
      - Red-Flags
    - Referring out
  - Outcomes
    - Stress reduction
    - Calming
    - Relaxation response
    - Body awareness
    - Improved breathing
    - Negative aspects
      - Enabling
  - Plan of care
    - Stress reduction

- Low back pain
  - Definition
  - Causes
    - Visceral
    - Mechanical
    - Emotional/psychogenic
    - postural
    - Anatomical
    - Structural
      - Unstable SI
  - Assessment
    - Experience
    - Client stage
    - Range of motion
    - Postural assessment
    - Health history
    - Need for standardized system of assessment
    - Evaluation of constant change
    - The clients emotional state
    - Specific vs. non-specific low back pain
    - Screening process
    - Measures
    - When to refer
    - Risks of harm
  - Treatment
    - Techniques used
• Alexander technique
• Myofascial release
• Joint mobilization
• Osteopathic techniques
• Indirect approach
• Lymphatic work
• Relaxation work

- Treatment adaptations
  - Bolstering
  - Working with whole body
- Safety
  - Health Education
    - Exercise
    - Diet to reduce inflammation
    - Client education
    - Self care
    - Clients holding on to dysfunction
  - Essential elements
    - Inverse pain/intervention intensity relationship
    - Level of training leads to more specific the intervention
    - Education needed
    - Research needed
      - Causes that should be excluded from Massage and LBP studies
    - Professional identity
    - Interdisciplinary work
    - Neuro-matrix and nueromodulation theory
  - Outcomes
    - Reduce medications
    - Reduce pain
    - Maintain mobility
    - Improve function
    - Reduce stress
  - Plan of care